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**Outsourcing Wars: Comparing Risk, Benefits and Motivation of
Contractors and Military Personnel in Iraq and Afghanistan
(2009–2011)**

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June 2012

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**OUTSOURCING WARS: COMPARING RISK, BENEFITS AND MOTIVATION
OF CONTRACTORS AND MILITARY PERSONNEL
IN IRAQ AND AFGHANISTAN (2009–2011)**

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Submitted in partial fulfillment of the requirements for the degree of

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ABSTRACT

This project compared risk, insurance benefits and motivation factors for contractors and U.S. Military personnel serving in Iraq and Afghanistan from 2009 to 2011. More contractors were killed than military personnel from January to June 2010 (Schooner & Swan, 2010). Findings revealed the following: (1) contractors' medical insurance benefits were equitable to the U.S. Military personnel, (2) real inequity existed between contractor disability compensation insurance and the military personnel's benefits, (3) and real inequity existed between a contractor's death benefits and the U.S. Military personnel's death benefits.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND.....	1
B.	OBJECTIVE	3
C.	RESEARCH QUESTIONS	3
D.	SCOPE, LIMITATIONS, AND ASSUMPTIONS	4
E.	METHODOLOGY	4
1.	Research Design	4
2.	Data Gathering and Estimations	5
3.	Measurement of Risk	7
F.	ORGANIZATION OF RESEARCH	7
II.	BACKGROUND	9
A.	INTRODUCTION.....	9
B.	CONTRACTOR ROLES AND RISKS IN A WAR ZONE	9
C.	DEPARTMENT OF DEFENSE MANPOWER REDUCTIONS.....	9
D.	INCREASED PRIVATIZATION OF GOVERNMENT FUNCTIONS...10	
E.	INCREASED RELIANCE ON CONTRACTED SUPPORT.....11	
F.	CHALLENGES WITH CONTRACTORS ON THE BATTLEFIELD ...11	
G.	SUMMARY	14
III.	LITERATURE REVIEW	15
A.	INTRODUCTION.....	15
B.	TAXONOMY OF MOTIVATIONAL THEORIES	16
1.	Needs Theories	16
a.	Maslow's Hierarchy of Needs.....	17
b.	Theory X and Theory Y.....	18
c.	Two-Factor Theory.....	18
d.	McClelland's Theory of Needs	19
2.	Reinforcement Theory	19
3.	Goal-Setting Theory	20
4.	Expectancy Theory	20
5.	Equity Theory.....	21
a.	Absolute Equity	21
b.	Relative Equity	21
c.	Adjustment Equity.....	22
6.	Intrinsic and Extrinsic Motivation Theory.....	22
C.	PREVIOUSLY COMPLETED RESEARCH	23
D.	SUMMARY	24
IV.	DATA, ANALYSIS AND FINDINGS.....	25
A.	INTRODUCTION.....	25
B.	DATA SOURCES AND RESEARCH APPROACH.....	25
C.	DATA ANALYSIS FOR DEATHS AND INJURIES.....	26
1.	Contractor Deaths and Injuries in Iraq and Afghanistan	26

2.	U.S. Military Personnel Deaths and Injuries in Iraq and Afghanistan.....	30
3.	Comparison of Risk for Contractors in Iraq and Afghanistan versus the Risk for U.S. Military Personnel in Iraq and Afghanistan, 2009 to 2011	33
D.	DATA ANALYSIS INSURANCE BENEFITS	35
1.	Insurance Benefits for Medical Treatment.....	36
2.	Insurance Benefits for a Temporary Disability.....	36
3.	Insurance Benefits for a Permanent Disability	38
4.	Insurance Benefits for Death	40
E.	FINDINGS	41
1.	Comparison of Risk and Insurance Benefits	41
a.	<i>Medical Treatment Equitable</i>	<i>41</i>
b.	<i>Workers' Compensation for Disabilities not Equitable</i>	<i>41</i>
c.	<i>Death Benefits not Equitable.....</i>	<i>43</i>
2.	Summary.....	44
V.	DISCUSSION AND RECOMMENDATIONS.....	47
A.	EFFECT ON MOTIVATION.....	47
B.	FURTHER RESEARCH.....	54
1.	Cost Benefit Analysis of Using Contractors in a War Zone	54
2.	Analysis of Contractor Deaths and Injuries in a War Zone	54
3.	Audit a Military Unit's Contractor Contingency Plans	54
VI.	CONCLUSIONS	55
	LIST OF REFERENCES	59
	INITIAL DISTRIBUTION LIST	63

LIST OF FIGURES

Figure 1.	Maslow's Hierarchy of Needs (From: Robbins and Judge, Essentials of Organizational Behavior, 73).....	17
Figure 2.	Contractor Deaths and Injuries in Iraq & Afghanistan (After CENTCOM quarterly reports and DoL DBA Case Summary reports.).....	27
Figure 3.	Contractor Deaths in Afghanistan vs. Iraq (After DoL DBA Case Summary reports.).....	27
Figure 4.	Contractor Injuries in Afghanistan vs. Iraq (After DoL DBA Case Summary reports.).....	28
Figure 5.	Effective IED Attacks in Afghanistan (January 2004 to May 2010) (After Cordesman, Allison, and Lemieux, 2010)	29
Figure 6.	U.S. Troop Casualties in Iraq (After DoD's personnel & military casualty statistics website)	31
Figure 7.	U.S. Troop Casualties in Afghanistan (After DoD's personnel & military casualty statistics website)	32
Figure 8.	U.S. Troop & Contractor Casualties in Iraq (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website) ...	33
Figure 9.	U.S. Troop & Contractor Casualties in Afghanistan (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website) ...	34
Figure 10.	U.S. Troop & Contractor Deaths in Afghanistan (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website) ...	45
Figure 11.	U.S. Troop & Contractor Deaths in Iraq (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website).....	45
Figure 12.	Casualty Percentages in Iraq (After DoL DBA Case Summary reports, CENTCOM quarterly contractor census reports & DoD personnel & military casualty statistics website)	48

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LIST OF TABLES

Table 1.	Presence of contractor personnel during U.S. military operations (After Table 3.2 in Jacques Gansler, <i>Democracy's arsenal: Creating a Twenty–First Century Defense Industry</i> , 107).	2
Table 2.	Contractor Casualties in Iraq & Afghanistan (After: CENTCOM quarterly reports and DoL DBA Case Summary reports.)	26
Table 3.	Contractor Levels and Casualty Percentages in Iraq (After CENTCOM quarterly reports and DoL DBA Case Summary reports.).....	28
Table 4.	Contractor Levels and Casualty Percentages in Afghanistan (After CENTCOM quarterly reports and DoL DBA Case Summary reports.)	29
Table 5.	U.S. Military Troop Levels and Casualty Percentage in Iraq & Afghanistan (After DoD’s personnel & military casualty statistics website)..	30
Table 6.	U.S. Military Troop Levels and Risk of Casualties in Iraq (After DoD’s personnel & military casualty statistics website).....	31
Table 7.	U.S. Military Troop Levels and Casualty Percentage in Afghanistan (After DoD’s personnel & military casualty statistics website)	32
Table 8.	Comparison of Casualty Percentage in Iraq for Contractors and U.S. Troops (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)	33
Table 9.	Comparison of Risk in Afghanistan for Contractors and U.S. Troops (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)	34

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LIST OF ACRONYMS AND ABBREVIATIONS

AWW	Average Weekly Wage
BAH	Basic Allowance for Housing
CAAF	Contractors Authorized to Accompany the Force
CENTCOM	U.S. Central Command
CRS	Congressional Research Service
DBA	Defense Base Act
DEB	Disability Evaluation Board
DoD	Department of Defense
DoS	Department of State
DoL	Department of Labor
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
IED	Improvised Explosive Device
KBR	Kellogg Brown Root
LCN	Local Country National
LHWCA	Longshore and Harbor Workers Compensation Act
LOGCAP	Logistics Civil Augmentation Program
NAWW	National Average Weekly Wage
NDAA	National Defense Authorization Act
NMS	National Military Strategy
OMB	Office of Management and Budget
PPD	Permanent Partial Disability
PDRL	Permanent Disability Retirement list

SOW	Statement of Work
SPOT	Synchronize Pre-deployment and Operational Tracker
TCN	Third Country National
TDRL	Temporary Disability Retirement list
TPD	Temporary Partial Disability
TTD	Temporary Total Disability
USAID	United States Agency for International Development

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I. INTRODUCTION

A. BACKGROUND

On March 31, 2004, America was re-awakened to the horrors of asymmetrical warfare. Four Blackwater USA security guards drove into history and an ambush in Fallujah, Iraq. Blackwater USA had been contracted to provide convoy security for the catering company, ESS Support Services Worldwide. The morning of March 31st, the four security guards were driving two unarmored Mitsubishi Pajero jeeps, escorting two trucks to pick up kitchen equipment near Fallujah for a military base. The security contract required three personnel per vehicle, but they were undermanned with only two in each vehicle and no rear gunner. Evidently, local Iraqi resistance groups had been tipped off to the Blackwater convoy movements and set up an ambush to stop the convoy. They attacked the convoy, killing the guards and burning the guards' bodies. Television reporters captured the gruesome scene as men beat and pulled apart the bodies. One man kicked a body in the head repeatedly until the skull was severed. Cameras filmed as the crowd chanted "Allahu Akbar" (God is Great) and the mutilated bodies were hung from the steel beams of a bridge that crossed the Euphrates river (Scahill, 2007). The death of these contractors again illustrated to the American public the severe dangers of asymmetrical warfare and the risk of sudden violence contractors are exposed to, as if they were combat soldiers.

The deaths of the Blackwater security guards depicted one of the few contractor deaths reported from the warzone. This became a newsworthy story when reporters were able to capture the mutilation on camera. Most Americans are probably unaware of the sacrifices that deployed contractors are making for the country (Schooner and Swan, 2010, p. 16). When an American military member is killed, the death of the person is reported, often including a short biography. It is hard to find news stories reporting injured or killed contractors. Yet from January to June 2010, more contractors than U.S. military soldiers were killed in these warzones. During this period, 436 contractors were killed out of 819 total reported deaths; this represented 53% of the fatalities in Iraq and Afghanistan (Schooner & Swan, 2010, p. 17).

Using contractors to help support a military at war is not a new concept. Contractors have been used by the military to help fight wars since the country was founded, as seen in Table 1. During the Revolutionary War, George Washington had contractors drive his wagons to supply food and clothing to his troops. Table 1 does not include contractors in Afghanistan, or contractors working directly for the Iraqi government or not funded by the Department of Defense (DoD).

Table 1. Presence of contractor personnel during U.S. military operations (After Table 3.2 in Jacques Gansler, *Democracy's arsenal: Creating a Twenty-First Century Defense Industry*, 107).

Conflict	Estimated Personnel		Estimated Ratio of Contractor Personnel
	Contractor	Military	
Revolutionary War	2,000	9,000	1 to 6
War of 1812	Not available	38,000	Not available
Mexican–American War	6,000	33,000	1 to 6
Civil War	200,000	1,000,000	1 to 5
Spanish–American War	Not available	35,000	Not available
World War I	85,000	2,000,000	1 to 24
World War II	734,000	5,400,000	1 to 7
Korea	156,000	393,000	1 to 2.5
Vietnam	70,000	359,000	1 to 5
Gulf War	9,000	500,000	1 to 55
Balkans	20,000	20,000	1 to 1
Iraq theatre (early 2008)	190,000	200,000	1 to 1

During the conflict in the Balkans, there was approximately a 1 to 1 ratio of contractors to military serving there. By 2008 in Iraq, there were 190,000 contractors and 200,000 U.S. military serving there, almost a 1 to 1 ratio. The reliance on contractors dramatically increased during the Iraq War. The spending in Iraq for contractor support services was 380% higher than the spending in the Balkans for contractor support services. The military spent approximately \$2.2 billion in the Balkans during a four year period, but in Iraq, during a four year period from 2003 to 2007, the U.S. spent \$85 billion (Gansler, 2011, p. 107). The increased reliance on the use of contractors appears to have been driven by four main factors: manpower reductions in the DoD; increased

push for privatization; increased reliance on contracted support of high technology weapons; and regional mandated troop ceilings (Urey, 2005).

The increased number of contractors used in a warzone and the demise of a traditional front-line has increased the risk that contractors will be exposed to hostile actions resulting in death or injury. The premise addressed in this study is that if contractors are exposed to an excessive level of risk without equitable insurance benefits, they may not be motivated to serve in future warzones without receiving sizeable increases in pay and benefits. Judging from the array of roles now performed by contractors, the military will still need to find and deploy trained and motivated civilian personnel to maintain global military superiority, e.g., base support functions, security, interpreter, logistics, construction, transportation, communications support, and training.

B. OBJECTIVE

The objective of the study was first to compare the risk and insurance benefits of contractors serving in Iraq and Afghanistan with those of U.S. Military personnel, then to explore the implications of those differences in terms of motivating contractors. The report also describes the extent of contractor death and injury in warzones, and the real and/or perceived differences in insurance benefits commensurate to risk

C. RESEARCH QUESTIONS

Primary Research Question: Is there an inequity between the levels of risk and insurance benefits (medical, disability and death benefits) to civilian contractors compared with those of U.S. Military uniformed personnel deployed to Iraq and Afghanistan from 2009 to 2011?

Secondary Questions:

Sec 1: How many contractors have been deployed to Iraq and Afghanistan from 2001–2011 and how many contractors have been killed or injured during their service in Iraq and Afghanistan?

Sec 2: What are the levels of risk (death and injury) and insurance benefits (medical, disability and death benefits) to civilian contractors compared with those of U.S. Military uniformed personnel in Iraq/Afghanistan war zones?

D. SCOPE, LIMITATIONS, AND ASSUMPTIONS

The report compares the risk and insurance benefits of contractors serving in Iraq and Afghanistan with those of U.S. Military personnel from 2009 to 2011 and explores the implications of those differences in the motivation of contractors. In the context of this report contractors are the employees of companies that have been awarded government contracts to provide a service. U.S. Military personnel are identified in the report as military members, military personnel or members.

There are multiple theories on employee motivation which use different dependent variables in measuring employee motivation or predicting employee behavior. This study does not use all theories to explore the implications of the differences in risk and insurance benefits of contractors serving in a warzone with those of U.S. Military personnel but focuses on the principle of fairness using equity theory, expectancy theory and intrinsic and extrinsic motivation. These theories will be used to explore real and/or perceived inequities concerning contractor insurance benefits, including possible impacts on contractor motivation.

E. METHODOLOGY

1. Research Design

A literature review on motivation, a qualitative research and qualitative analysis was conducted, and numerical data was obtained from the U.S. Central Command (CENTCOM), DoD, Bureau of Labor (BoL), Government Accountability Office (GAO), and Congressional Research Service (CRS) reports. The research data was used to measure risk for contractors and U.S. Military personnel in Iraq and Afghanistan and to determine what insurance benefits are available to contractors and U.S. Military personnel serving in Iraq and Afghanistan.

2. Data Gathering and Estimations

Data was gathered on the number of contractors and military personnel that served in Iraq and Afghanistan and how many of those have died or have been injured there. This data was used to determine the risk of serving in Iraq and Afghanistan for contractors and military personnel. The data for the number of contractors and U.S. Military personnel serving in Iraq and Afghanistan was retrieved from three sources:

- U.S. Central Command's quarterly contractor census reports

(http://www.acq.osd.mil/log/PS/CENTCOM_reports.html)

- DoD personnel and military casualty statistics

(<http://siadapp.dmdc.osd.mil/personnel/MMIDHOME.HTM>)

- Department of Labor Defense Base Act case summary reports

(<http://www.dol.gov/owcp/dlhwc/lbdbareports.htm>)

Additional research collected information on workers' compensation type insurance benefits for contractors and U.S. Military personnel serving in Iraq and Afghanistan. The level of risk for contractors and the insurance benefits contractors receive to serve in Iraq and Afghanistan was compared against the risk and insurance benefits for military personnel in Iraq and Afghanistan to determine if contractors receive an equitable amount of insurance benefits in relation to the amount of their risk.

There were two limitations on data gathering for this research project. The first limitation of this research was in the determination of the number of contractors that served in Iraq and Afghanistan from 2001 to 2011. This could not be done. No data was available from 2001 to 2007. The DoD did not track and could not account to Congress for the number of contractors serving in Iraq and Afghanistan. In response, Congress passed the National Defense Authorization Act of 2008 and directed the DoD, Department of State (DoS) and United States Agency for International Development (USAID) to use a common database to track contractor data (2008, § 861).

The database developed was the Synchronize Pre-deployment and Operational Tracker (SPOT) system. It was implemented in mid-2008 to monitor and track contractors serving overseas (Government Accountability Office, 2009).

The second limitation of this research was the DoD does not track the number of contractors that died or were injured in Iraq and Afghanistan. The only source for the number of contractors that died or were injured was the DOL Defense Base Act (DBA) case summary reports (DoL DBA Case Summary Reports, n.d.). The DBA case summary reports provide the aggregate total of contractors that were injured or died from September 1, 2001 to December 31, 2011, but a breakdown of the contractors' deaths and injuries by fiscal year was only available for 2009, 2010 and 2011. In this study, only injuries for contractors that resulted in a loss of four or more work days were used to compile the number of injured contractors. A contractor only receives disability for an injury if there is a loss of work time of four days or more (33 U.S.C. § 906). The DBA case summary reports injuries that last four days or more using code *LT4* and deaths using code *DEA* (DoL's DBA case summary reports, n.d.). The DBA case summaries also include the number of government contractors that died or were injured in Iraq and Afghanistan under a government contract and does not specify if the contract was awarded by DoD, DoS or USAID. The specific number of dead and wounded contractors for the DoS and USAID was not publicly available and could not be removed from the DoL's aggregate total to determine the number of DoD contractors that died or were injured in a warzone. The GAO conducted a review of DoD, DoS and USAID contracts in Iraq and Afghanistan during late 2007 to early 2008. The GAO report provided an estimate on the number of contractors working for the three agencies in Iraq and Afghanistan; DoD had 197,718 contractors, DoS had 7,192 contractors and USAID had 5,150 contractors (GAO, 2008). DoS and USAID contractors only comprised 6% of the total number of contractors working in Iraq and Afghanistan and would likely not make much of a contribution to the total number of contractors killed in Iraq and Afghanistan.

Also, the implications of a contractor dying or being injured in Iraq and Afghanistan would be the same for a contractor regardless if the contract was awarded by the DoD, DoS or USAID and thus the lack of separation does not detract from the validity of this analysis (Government Accountability Office, 2009).

3. Measurement of Risk

For the purpose of this study, the level of risk is equal to the percentage of casualties (dead and injured) for a group. The percentage of casualties was calculated by dividing the number of casualties for a group by the number of personnel in the group serving in the area of interest. The risk for a group was analyzed in three ways; the combined casualty percentage for Iraq and Afghanistan, the casualty percentage in Iraq only and then the casualty percentage in Afghanistan only. This process to determine the level of risk for a group that served in Iraq and Afghanistan was done separately for each group (contractors and U.S. Military members) and the results for each group were compared against each other. The comparison of risks (death and injury) for contractors versus the U.S. Military personnel was limited to 2009 to 2011 due to incomplete data regarding either the number of casualties or the number of contractors serving in Iraq and Afghanistan from 2001 to 2008.

F. ORGANIZATION OF RESEARCH

This research is divided into six chapters. Chapter I introduced the risk contractors face in war zones, the objective and research questions for the study, provided information on the scope of the research, the limitations and the methods used to conduct the study. Finally, the chapter closes with a description of research project organization. Chapter II provides background information on the increased use of contractors in a warzone and the risks the contractors face. Chapter III reviews selected theories on motivation, including; need theory, reinforcement theory, goal-setting theory, expectancy theory, balance theory and intrinsic and extrinsic motivation theory. The chapter concludes by discussing the theories that will be used to evaluate the equity of the contractor's risk and insurance benefits and the implications on contractor motivation to serve in war zones. Chapter IV presents the analysis of the data and findings based on

the theories of equity, expectancy, intrinsic motivation and extrinsic motivation. Chapter V presents a discussion of the implications and provides recommendations for further research. Chapter VI offers conclusions for the research project.

II. BACKGROUND

A. INTRODUCTION

This chapter provides information about contractor casualties, the roles contractors serve on the battlefield, and shows how the military has dramatically increased the use of contractors in the Afghanistan and Iraq wars. The chapter also describes the factors that have driven the use of contractors in war zones as an augmentation tool for regular military forces. Finally, the chapter discusses the challenges of using contractors on the battlefield and how these challenges are being met.

B. CONTRACTOR ROLES AND RISKS IN A WAR ZONE

Schooner and Swan wrote that the number of contractors being killed in Iraq and Afghanistan has been increasing and actually exceeded the number of military personnel killed during the period of January 2010 to June 2010 (Schooner & Swan, 2010, pp. 16–18). With more contractors being killed in hostile regions, the DoD may find it more difficult to motivate future contractors to serve in overseas war zones. Contractors fill many vital roles in Iraq and Afghanistan, performing base support functions, security, interpreter, logistics, construction, transportation, communications support, and training. Serving in these hostile regions brings the risk of being wounded or killed so there are insurance benefits provided to contractors to compensate them for incurring this risk. U.S. Military personnel are exposed to the risk of injury or death in Iraq and Afghanistan and they also receive insurance benefits to compensate them for incurring their risk. This report compared the risk and the insurance benefits provided to each group.

C. DEPARTMENT OF DEFENSE MANPOWER REDUCTIONS

With the end of the Cold War as in previous wars, the U.S. downsized the size and scope of its military advantage over the Soviet Union, i.e., the *peace dividend* of the 1990s. The deciding perception was that the requirement to fight a war in two major theaters of operations was no longer valid. In the 1990s, the military reduced its active force from 2.1 million personnel to below 1.4 million by 2000 (Gansler, 2011, p. 108).

The events of September 11, 2001 precipitated the entry by the United States first into Afghanistan followed by the invasion of Iraq in 2003, i.e., two major theatres of operations. One result was that the military had to use reserve forces and contractors to prosecute the two wars.

In 2003, the Government Accountability Office (GAO) issued a report stating that the military considered contractors a vital part of the total force, playing a key role in supporting deployed forces. Contractors deploy and provide services such as interpreters, security personnel, intelligence, weapon systems support, and logistics specialists, but contractor support is not considered in the military's operational or strategic plans (Government Accountability Office, 2003).

By 2004, the National Military Strategy (2004) included the contracted workforce as a necessary part of the joint force. In order to engage in multiple worldwide operations, the military “must maintain a truly joint, full spectrum force, with a seamless mix of active forces, the Reserve Component, DoD civilians, and contracted workforce” (CJCS, 2004, p. 27). The Defense Department's 1990s manpower reductions led to a growing dependence on contractors providing goods and services in asymmetric battle zones, i.e., no front line.

D. INCREASED PRIVATIZATION OF GOVERNMENT FUNCTIONS

Manpower reductions increased the need for contractors and the government's increased push for privatization of government functions in the 1990s escalated the outsourcing of government jobs. The basis of federal privatization is described in the Office of Management and Budget (OMB) Circular A-76. Government agencies identified activities performed by government personnel as either commercial or inherently governmental. Agencies would use government personnel to perform inherently governmental activities and contract out for activities determined to be commercial in nature (Office of Management and Budget, 2003). During the Clinton administration, the Department of Defense was the main user of privatization. The Undersecretary for Acquisitions during this period was Jacques Gansler, a primary proponent of outsourcing positions to contractors (Bruneau, 2011). The outsourcing of

many support and logistic activities in the 1990s established a framework for contracting for multiple goods and services in war zones. Demand for contractor activities substantially increased as the U.S. entered into the Afghanistan and Iraq Wars.

E. INCREASED RELIANCE ON CONTRACTED SUPPORT

Most defense personnel cuts came from support units to ensure that the major composition of remaining forces were combat personnel. This required the military to contract out for support and capabilities where the military did not have the expertise or organic resources. Contracting provides the military forces access to technology and capabilities that would take an inordinate amount of time to develop internally, or would be prohibitively expensive to develop. The Army's increased reliance on contracted logistics support services, including high-tech weapon systems is likely to continue in the short and mid-term out-years (Gansler, 2012).

F. CHALLENGES WITH CONTRACTORS ON THE BATTLEFIELD

More contractors in war zones creates additional management and legal challenges, e.g., how to process contractor employees into theater, who is responsible for this process, who reports on changing employee status? With the use of private security guards, legal challenges arose regarding accountability and control for contractors (Scahill, 2007). The GAO reported the military realized the importance and the vital role that contractors perform yet did not include consideration of contractors in operational or strategic plans (Government Accountability Office, 2003, p. 2). Until 2003, there was no document formalizing a policy across the Services about how to manage contractors in a war zone. It is fair to state that this contributed to the confusion among the military branches on the government's responsibility to contractor employees serving in hostile regions. Joint commanders often have contractors supporting several different Services, under several different contracts, each with different requirements and contract terms and conditions, operating within their area of responsibility (Urey, 2005). An overarching DoD policy was certainly needed to efficiently and professionally manage the increasing number of contractors on the battlefield and their impact on combatant commanders. A GAO audit reported that no overall DoD guidance exists regarding the use of contractors

to support deployed forces (Government Accountability Office, 2003). The report also recognized that the lead Service was the United States Army in developing substantial guidance for dealing with contractors (2003).

On January 3, 2003, the U.S. Army issued the field manual, FM 3–100.21, *Contractors on the Battlefield*. This was the first real substantive change by the Army on how to address the challenges and the use of contractors in a combat zone. The manual delineated to companies and to regional commanders their responsibilities toward contractor employees. The field manual discusses being able to deploy throughout an area of operation and in virtually all conditions, however there may be no "safe zones" when facing asymmetric threats on nonlinear battlefields. Commanders are still legally responsible for protecting contractors in their area of operations and companies must have enough employees with appropriate skills and willingness to meet theatre requirements. The Army is charged with providing critical support before contractors arrive in the theater or have a contingency plan in the event that contractors either do not deploy or cannot continue to provide contracted services (FM 3–100.21, 2003). The Army manual has appeared to provide a useful framework in helping to address management–contractor issues. Companies share an equal role with government organizations in the deployment/redeployment process. During deployment and redeployment, the company is responsible for complying with all related provisions specified in the contract. This includes complying with prescribed pre–deployment processing requirements, such as training, medical fitness, and ensuring that employees are prepared to deploy when notified. The company also ensures that its employees are aware of deployment requirements associated with their position, including potential danger, stress, physical hardships, and living conditions (FM 3–100.21, 2003). The combat commander and the supporting contracting command establish and enforce the requirement for certain health, dental, and physical standards for contractor employees through contract terms. The contractor ensures that its employees meet these standards, including having all required dental work accomplished prior to reporting to the military deployment force–projection platform so that pre–existing medical conditions do not place an unnecessary burden on the theater medical structure. Employees who fail to

meet these deployment standards, or who become unfit through their own actions (pregnancy, alcohol or drug abuse, etc.), are removed from the warzone at the company's expense (FM 3-100.21, 2003, p. 3-5).

The field manual also provides information on the contractor employee's personal readiness. Employees are notified that they must complete several items on the personal readiness checklist such as obtaining a passport, updating life insurance beneficiaries and next of kin information (FM 3-100.21, 2003, p. 3-7). The Defense Base Act of 1941 as amended requires companies to provide worker's compensation protection to civilian employees working outside the United States on U.S. military bases or under a contract with the U.S. government for public works or for national defense (42 U.S.C. § 1651). The pre-deployment process of medical screening, personal readiness, training and screening can be done at a military processing facility or elsewhere per the contracted companies. The supporting contracting command can direct the method using terms in the contract (FM 3-100.21, 2003, p. 3-10). Upon redeployment, a contractor employee returns through the same contractor company's processing center or military processing center for out-processing. The company's or military's processing center is responsible for assisting the return of individual contractor employees and ensuring employee protection, privacy, and transition from the deployment area to home. At the return processing center, contractor employees are required to return any issued clothing and equipment. They receive a post-deployment medical screening and briefings on signs and symptoms of diseases to watch for, such as tuberculosis (FM 3-100.21, 2003, p. 3-19). The company is responsible for the costs of transporting the employee from the processing center to the home destination.

Guidance on how to manage legal issues that may arise with the use of contractors is provided in the manual. The company is solely responsible to manage its employees. The employees do not fall under a combatant commander's Uniformed Code of Military Justice jurisdiction. There exists a body of laws, statutes, and regulations that affect contract support including the statement of work (SOW) for the specific operations, international agreements affecting the theater of operations, and general international law (FM 3-100.21, 2003, p. 4-10). "When criminal activity is involved, international

agreements and the host–nation’s laws take precedence. In the absence of any host–nation involvement, the commander may be able to utilize the Military Extraterritorial Jurisdiction Act passed by Congress and signed into law in November 2000" (FM 3–100.21, 2003, p. 4–12). The Military Extraterritorial Act permits the prosecution of civilians in federal court, who commit certain crimes, while employed by or accompanying the armed forces overseas. The law applies to any DOD contractor, or subcontractor (at any tier), or their employees, provided they are not a national of or reside in the host nation (FM 3–100.21, 2003, p. 4–12).

G. SUMMARY

This chapter summarized the background of using contractors in war zones, and factors contributing to the rise in numbers of contractors in Iraq and Afghanistan. Also discussed were various challenges the military faces by using contractors in a combat zone. Manpower reductions, outsourcing, sophisticated weapons systems and troop ceilings have primarily caused the military to augment their force structures with substantially higher numbers of contractor employees needed for military success. Greater reliance on nonmilitary support is recognized by all the Services and is likely considered essential for successful future operations. The consequences of having a large number of contractors in an asymmetrical warzone include death, injury and the same psychological traumas experienced by uniformed soldiers. The military addresses risks contractors face in war zones through the use of the Defense Base Act (1941) and the Army Field Manual for contractors on the battlefield (FM 3–100.21, 2003).

III. LITERATURE REVIEW

A. INTRODUCTION

This literature review presents a taxonomy of motivational theories segregated into six clusters of relevant theories for each cluster. The literature review discusses which motivation theories are applicable for the analysis of the data to determine if the risk and insurance benefits for a contractor in Iraq and Afghanistan are equitable to those of deployed U.S. Military personnel.

As explained in the previous chapter, an increased reliance on contractors has placed a greater number of contractors in harm's way and contractor deaths and injuries have increased. If contractors are exposed to an excessive level of risk without an equitable amount of insurance benefits: they may not be motivated to serve in a warzone. When a contractor serves in a hostile region, there are risks of being wounded or killed but there are insurance benefits provided to contractors to compensate them for incurring this risk. U.S. Military personnel are also exposed to risk of injury or death in Iraq and Afghanistan and they receive insurance benefits to compensate them for incurring their risk. This report will conduct a comparison of the risk and the insurance benefits provided to each group. A limitation of this research project is the assumption that the government provided insurance benefits are adequate for the military and the contractor's insurance benefits will be compared to the military's insurance benefits to determine if they are sufficient and using motivation theories to determine if they are equitable.

Motivation theories are the appropriate framework to evaluate the equity between the contractors' risk and insurance benefits in Iraq and Afghanistan versus those of the U.S. Military personnel also serving in Iraq and Afghanistan. This comparison of risk and insurance benefits will help to determine the possible effects on a contractor's motivation to serve in a hostile environment. Motivation theory has been used to evaluate the effects of pay and benefits on employee motivations. Thomas showed that if a job has meaningful purpose, an employee receives intrinsic motivation rewards and will be committed to the job by working hard even if no one is watching. Extrinsic

motivation rewards like pay and benefits are not as important and do not drive an employee's motivation like intrinsic motivation. But studies have shown that the principle of fairness has been violated if an employee perceives that his pay and benefits are not equitable in comparison with another person in a similar situation. Intrinsic motivation will have less effect and extrinsic rewards like pay and benefits will become the center of the worker's motivation or lack of motivation due to inadequate compensation until the inequity is remedied (Thomas, 2002).

B. TAXONOMY OF MOTIVATIONAL THEORIES

A limited selection of motivation theories are discussed because a complete review of potentially applicable theories is beyond the scope of this project. A taxonomy of motivational theories explained by Landy and Becker in *Motivational Theory Reconsidered* (1987) is reviewed including the efficacy of intrinsic and extrinsic motivation theory. Landy and Becker grouped motivational theories into the following clusters: need theory, reinforcement theory, balance theory, goal-setting theory and expectancy theory (1987, p. 6). The Landy and Becker taxonomy of motivational theories was changed in two ways. First, the balance theory cluster consisted of a group of equity theories, thus balance theory was renamed equity theory for clarification. Next, the category of intrinsic and extrinsic motivation theory was added as a sixth cluster of motivation theories. Kenneth Thomas discussed the influence of extrinsic and intrinsic motivation upon an employee's energy and commitment in, *Intrinsic Motivation at Work: Building Energy & Commitment* (2002). A person can have higher order needs that are intrinsic to that person and the worker can be motivated to perform a meaningful task even to his own detriment (Thomas, 2002, pp. 10–13). His study of intrinsic and extrinsic motivation completes the selection of motivation theories addressed in this study.

1. Needs Theories

Early theories of motivation developed in the 1950s progressed from content to needs-based theories, i.e., factors causing motivated behavior (motivators) and human need categories (achievement, affiliation, etc.) respectively. The following four theories

from this time period are discussed: Maslow's hierarchy of needs, Theory X and Theory Y, Two-Factor theory and McClelland's theory of needs (Robbins & Judge, 2012, p. 73).

a. Maslow's Hierarchy of Needs

A well-known theory of motivation is Maslow's hierarchy of needs. He believed each person had the five needs of physiological, safety, social, esteem and self-actualization (Robbins & Judge, 2012). He arranged each need in a hierarchy with physiological at the bottom progressing up to self-actualization, see Figure 1.

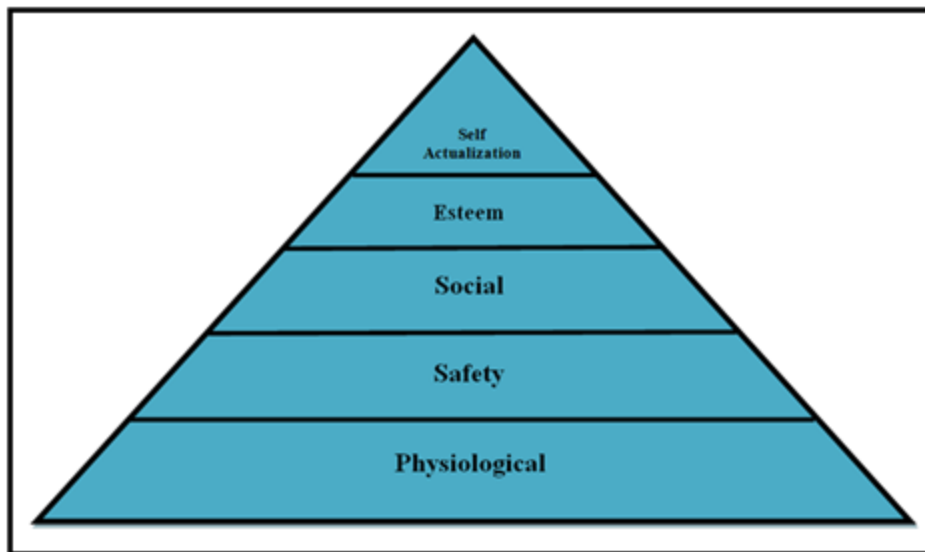


Figure 1. Maslow's Hierarchy of Needs (From: Robbins and Judge, Essentials of Organizational Behavior, 73).

As physiological needs are satisfied, they may no longer provide a motivating force. Safety needs would motivate next until they were substantially satisfied and progression would occur up to the next level until a person perceives the penultimate need called self-actualization. In order to be able to motivate a worker, a manager would need to understand the worker's current category, providing incentives for the next higher level (Robbins & Judge, 2012). Maslow separated the five needs into higher and lower orders. Physiological and safety were lower-order needs and social, esteem and self-actualization are categorized as higher-order needs (Robbins & Judge, 2012). Additionally, lower order needs are satisfied externally (extrinsic to the individual) and higher-order needs are satisfied internally (intrinsic to the individual).

Maslow's needs theory is well known and often mentioned by business managers but research is not completely supportive of his theory, i.e., self-actualization is much less applicable in *collectivist* cultures, and a needs hierarchy is probably unique to each person and can change over time (Robbins & Judge, 2012).

b. Theory X and Theory Y

Douglas McGregor developed Theory X and Theory Y based on his view that there are two distinct views of human beings: one basically negative, labeled Theory X and the other basically positive, labeled Theory Y (Robbins & Judge, 2012). McGregor concluded that managers divide workers into these two groups based on a certain grouping of assumptions, and modify their management style and behavior toward employees according to those assumptions. Under Theory X, the manager believes employees inherently dislike work and must therefore be constantly directed, supervised and possibly coerced. Whereas under Theory Y, managers assume employees can view work as natural and can therefore learn to accept and even seek greater responsibility. Theory Y assumes higher-order needs dominate (intrinsic) individual behaviors. Theory X and Theory Y also lack research support similar to the hierarchy of needs theories (Robbins & Judge, 2012).

c. Two-Factor Theory

Psychologist Frederick Herzberg proposed the two-factor theory, also known as motivation-hygiene theory (Robbins & Judge, 2012). Herzberg conducted an investigation into what employees wanted from their jobs, i.e., including situations in which they felt exceptionally *good* or *bad* about their jobs. People who felt bad about their job tended to blame external factors such as supervision, pay, company policies, and working conditions (hygiene or dissatisfaction factors). People who felt good about their job, tended to attribute this primarily to internal factors (motivators such as achievement and recognition). Herzberg concluded that factors leading to job satisfaction are distinct from factors leading to job dissatisfaction. Interestingly, the opposite of satisfaction is not dissatisfaction but "no satisfaction" and the opposite of dissatisfaction is "no dissatisfaction" (Robbins & Judge, 2012, pp. 74–75). The two-factor theory has not been

well supported in the literature. For example, when things go well, people tend to take credit themselves, contrarily blaming failure on the external environment (attribution theory).

d. McClelland's Theory of Needs

David McClelland and his associates developed McClelland's theory of needs, concluding that the following three motives drive people: the need for achievement, the need for power and the need for affiliation. There is reasonable research support here, but because the three needs are mostly unconscious, an individual may have a high need but not know it, thereby making measurement problematic. When a job has a high degree of individual responsibility and an intermediate degree of risk, high achievers appears to be strongly motivated. However, a high need to achieve does not necessarily make someone a good manager. Employees with a high achievement need are interested in how well they do personally, not in influencing others to perform. A high power motive alongside a low affiliation motive may comprise a better fit for managerial effectiveness. Learned needs appear to be fairly robust across cultures helping explain why some societies produce more. Apparently, there is a lack of interest in conducting research to further validate this theory (Robbins & Judge, 2012).

Landy and Becker state there are "dependent variables that are typically studied in various tests of motivational approaches (1987, p. 25)." Job satisfaction for example is a common dependent variable used to evaluate need theories. The various need theories will not be used to compare risks and insurance benefits of contractors or U.S. Military personnel in Iraq and Afghanistan.

2. Reinforcement Theory

Reinforcement theory is where a person's behavior should not change systematically until a particular pattern is reinforced. A manager can use positive and negative reinforcement to motivate an employee to behave in a manner desired by the manager (Landy & Becker, 1987, pp. 11–13). This research addresses real and/or perceived equity differences between two groups and possible effects on employee motivation. The dependent variable for reinforcement theory is employee behavior and

how managers can use positive and negative reinforcements to influence employees' behavior. This motivation theory is not applicable for this project and will not be used to measure the effect on contractor motivation due to possible inequities between the contractor's and U.S. Military personnel's risk and insurance benefits.

3. Goal-Setting Theory

Goal-setting theory posits that humans can be substantially motivated based on accomplishing certain kinds of goals, e.g., specific vice general, measurable, action-oriented vice passive, realistic and timed. Robbins and Judge discuss how specific and stretch goals can inspire motivation over broad or simple ones (Robbins & Judge, 2012, pp. 78–80). Goal-setting theory is not applicable for the purposes of this research project and will not be used to analyze the data for determining contractor motivation in an equity comparison.

4. Expectancy Theory

Robbins and Judge summarized Victor Vroom's widely accepted expectancy theory for motivation (2012, p. 86). The main dependent variable in the analysis of motivation under expectancy theory is choice and probability. In sum, employees are rational beings continually estimating how much effort is needed to accomplish something (E to P); what is the likely outcome of performing said task (P to O); and will the expected reward (valence) be positive (or not)? All three of these relationships must be present for the theory to work. Expectancy theory appears to work well for some occupational and organizational choices like quitting a job or changing companies. These types of choices are usually made over an extended period of time; days, weeks or months. This gives the person enough time to conduct their cost/benefit analysis (Landy & Becker, 1987). Expectancy theory will be used in the context of predicting contractor motivation to serve in Iraq and Afghanistan given a level of risk and the equity of insurance benefits.

5. Equity Theory

Landy and Becker summarized Vecchio's 1981 article in *Journal of Applied Psychology* on equity theory that suggests that each of us compares our situation with other workers in terms of real and/or perceived fairness or job equity. If there is a real or perceived inequity then we respond by decreasing inputs or worse, e.g., absenteeism, apathy and/or sabotage (Landy & Becker, 1987, p. 15). Equity theory could be useful in predicting behavior based on differences in the workplace, i.e., a soldier in danger compensated equally to a civilian contractor in danger. Research on equity and motivation has examined at what level a person starts to calculate equity and what estimation method the person uses, absolute equity or relative equity (Landy & Becker, 1987).

a. Absolute Equity

Absolute Equity is where individuals get the same exact reward. An example of absolute equity would be if two people work for the same company, contribute equally and if the company awards \$1,000 bonuses, each person would get a \$1,000 bonus regardless of their salary levels (Landy & Becker, 1987, p. 18)

b. Relative Equity

Relative Equity is where individuals get a reward that is relative to a different base. An example of relative equity would be if two people work for the same company that gives out a 10% bonus based on an individual's base salary. The 10% bonus for a person with a \$50,000 salary would be \$5,000, but a person with a \$40,000 salary would also get the 10% bonus but only \$4,000 in cash (Landy & Becker, 1987, p. 18).

If a person calculates job fairness using relative equity as their method of measurement, then absolute comparisons might appear inequitable. Also, if a person calculates fairness using absolute equity as their method of measurement, then relative comparison might likewise appear inequitable, research suggests that most of us use a

method to estimate equity, that is somewhere between absolute equity and relative equity, called adjustment equity (Landy & Becker, 1987, p. 18).

c. *Adjustment Equity*

Adjustment equity occurs over a longer term than original short-term consideration that was thought to occur. Adjustment equity assumes that a person places themselves on a compensation continuum and on a talent continuum. A person looks at where they perceive themselves to be on the talent continuum and compare this to where they are on the compensation continuum. If the person feels they are at the same relative position on both continua, equity is experienced but if there is an imbalance then an inequity is experienced (Landy & Becker, 1987, p. 18). This is the principle of fairness in action and it basically means that rewards and conditions should be proportional to performance or workers might adversely respond. An inequity may arise if this principle is violated by a person not receiving enough reward for their performance considering a comparable other (Thomas, 2002). Pay and benefits are relevant to comparing the equity between contractors and military members serving alongside in war zones.

6. *Intrinsic and Extrinsic Motivation Theory*

Kenneth Thomas' (2002) discussion on the influence of intrinsic and extrinsic motivation upon an employee's energy and commitment in his book, *Intrinsic Motivation at Work*, builds upon the older needs theories such as Maslow's hierarchy of needs. Thomas incorporates a cognitive aspect into a person's motivational drive looking at the high and low order needs from an intrinsic and extrinsic perspective (2002, pp. 10–13). From the beginning of the twentieth century to the 1990s, the work environment has been filled with large bureaucratic companies often containing tall hierarchies of employees, supervisors, managers and executives. Traditionally, employees functioned in a compliance type manner, i.e., pay for physical labor. Managers established the rules and policies for employees to follow. For their compliance, employees were rewarded with salaries or punished for non-compliance. In the 1990s, new technology like computers ushered in a global marketplace that demanded faster customer response time, and better personalization of products and services. Employers needed the entire employee—not

just their backs. Workers became more efficient and had better access to information with the improved technology. Employees could interact directly with customers thereby having to make important decisions including, self-supervision. Today's workers expect to be treated differently than in past decades. The workplace shifted from focusing on employee compliance to employee commitment. Companies could no longer highly motivate simply by fulfilling extrinsic needs, they had to install generators in employees so they could motivate themselves, often based on the job itself. Compliance no longer suffices, commitment is what is desired (Thomas, 2002).

Thomas described extrinsic rewards as salaries, bonuses, benefits, cash awards and promotions—all factors exterior to the individual. Today's leaner organizations often cut hierarchies, translating into fewer supervisors, translating into an expanding need for self-managed and committed workers. Intrinsic rewards are internal to the individual such as a sense of meaningfulness, a sense of choice, a sense of competence and a sense of progress. To have a sense of meaningfulness, one must feel they are pursuing something with a worthy purpose that matters in the larger scheme of life. Second, to have a sense of choice, an employee may need to feel that they have degrees of freedom to accomplish an assigned task the best way they see fit. A sense of competence is the accomplishment one feels in skillfully performing a task. Finally, a sense of progress is the feeling in achieving the task and accomplishing something of purpose (Thomas, 2002, p. 44).

Extrinsic and intrinsic rewards can support each other. The extrinsic reward of pay/money can be said to reside in the foreground of one's vision when that person is out of work and needing money, i.e., pay as a dominate driver. Once employed for a period of time, pay shifts to the background as a primary motivator, and intrinsic drivers loom in importance and relevance (Thomas, 2002, p. 120).

C. PREVIOUSLY COMPLETED RESEARCH

Many different types of motivation theories have been written about since the 1950s. This section discussed several motivation theories including equity, expectancy, and intrinsic and extrinsic motivators. There has been little research conducted into the

equity between the risks and insurance benefits for contractors in Iraq and Afghanistan versus those of U.S. Military personnel serving there. Motivation theories of equity, expectancy, and intrinsic and extrinsic rewards applicable to high risk work environments will be analyzed. Additionally, several key books have been reviewed that examined motivation, including Kenneth Thomas', *Intrinsic Motivation at Work: Building Energy & Commitment*; Stephen Robbins and Timothy Judge's book, *Essentials of Organizational Behavior*; Steven McShane and Mary Ann Von Glinow's book, *Organizational Behavior*; and Stephen Robbins and David DeCenzo's book, *Fundamentals of Management*. The scholarly articles of Frank Landy and Wendy Becker, "Motivation Theory Reconsidered" and Gary Latham and Craig Pinder, "Work Motivation Theory and Research at the Dawn of the Twenty-First Century" looked at motivation in the workplace. These projects, books and articles discuss motivation theories and their application in the workplace. They do not specifically address the motivation issues of contractors on a battlefield but provide a foundation of motivation theory. This research project will build upon the study of motivation by applying equity theory to the comparison of the contractor's risks and benefits in Iraq and Afghanistan versus those of U.S. Military personnel serving there.

D. SUMMARY

This literature review looked at the different clusters of motivational theories; needs theories, reinforcement theory, goal-setting theory, expectancy theory, equity theory, and intrinsic and extrinsic motivation theory. The equity theories of relative equity, absolute equity and adjustment equity will be the primary motivational theories used to evaluate actual and/or perceived inequities between the risks and insurance benefits of contractors serving in Iraq and Afghanistan compared to U.S. Military personnel serving there. Expectancy, intrinsic and extrinsic motivation theories will be used to evaluate anecdotal data to evaluate contractor motivation to serve in Iraq and Afghanistan.

IV. DATA, ANALYSIS AND FINDINGS

A. INTRODUCTION

This chapter showed to what extent contractors and U.S. Military personnel have died or been injured while serving in Iraq and Afghanistan from 2001 to 2011. A comparison was conducted of the risks between contractors and military personnel serving in Iraq and Afghanistan from 2009 to 2011 and of the insurance benefits for contractors and military personnel serving in a war zone. This data was analyzed based on motivation theory to determine if there are likely real or perceived inequities between a contractor's benefits and a military member's benefits. The chapter closes with a description of the findings of this analysis.

B. DATA SOURCES AND RESEARCH APPROACH

The data on the number of contractors and U.S. Military personnel that have served, died or were injured in Iraq and Afghanistan was retrieved from: the DoL's DBA case summary reports, U.S. Central Command's quarterly contractor census reports to Congress on contractors serving overseas, and the Department of Defense's Personnel and Military Casualty Statistics reports. The author collected data from these reports and compiled this information into a Microsoft Office excel file to determine the average number of contractors and military personnel that served in Iraq and Afghanistan, the number of casualties from 2009 to 2011, and the casualty percentages for contractors and military personnel serving in Iraq and Afghanistan. For the purposes of this study, the level of risk for contractors or troops serving in a war zone was assessed as the number of contractor or troop casualties (i.e., dead or injured) as a percentage of the number of contractors or troops that served in Iraq and Afghanistan from 2009 to 2011.

In this study, only injuries for contractors that resulted in a loss of four or more work days were used to compile the number of injured contractors. A contractor only receives disability for an injury if there is a loss of work time of four days or more (33 U.S.C. § 906).

The injuries that last four days or more are reported using code *LT4* and deaths are reported using code *DEA* on the DBA case summary reports (DoL's DBA case summary reports, n.d.).

The data was entered into a Microsoft Office excel spreadsheet, which was used to generate the tables and figures displayed in Chapter IV. The information in the tables and figures was analyzed to compare the risk and insurance benefits for contractors versus the military personnel using motivational theory in accordance with Yin's techniques for analyzing cases (Yin, 1994). The comparison of the risks (death and injury) for contractors versus the U.S. Military personnel was limited to 2009 to 2011 due to incomplete data on contractor levels, deaths and wounded from 2001 to 2008. This information was not maintained by DoD or any other activity from 2001 to 2008.

C. DATA ANALYSIS FOR DEATHS AND INJURIES

1. Contractor Deaths and Injuries in Iraq and Afghanistan

Between September 1, 2001 and December 31, 2011, 2,650 contractors have died and another 22,492 received serious injuries in Iraq and Afghanistan (DoL DBA Case Summary Reports, n.d.). As shown in Table 2, between 2009 and 2010 there was a steady decline in the number of contractors serving in Iraq and Afghanistan. This occurred as the United States began preparations for the withdrawal of all combat troops from Iraq by December 31, 2011. However, the percentage of dead or injured contractors increased from 1.7% in 2009 to 2.9% in 2010 and 2.7% in 2011. Contractor deaths exceeded 400 per year in 2010 and 2011, averaging more than one death per day. Deaths and injuries are separated in Figure 2.

Table 2. Contractor Casualties in Iraq & Afghanistan (After: CENTCOM quarterly reports and DoL DBA Case Summary reports.)

Year	Average Contractor Levels	Deaths	Injured	Contractor Casualty Percentage
2009	208,029	280	3,170	1.7%
2010	186,662	426	4,968	2.9%
2011	155,862	414	3,750	2.7%
Totals	2001 to 2011	2,650	22,492	

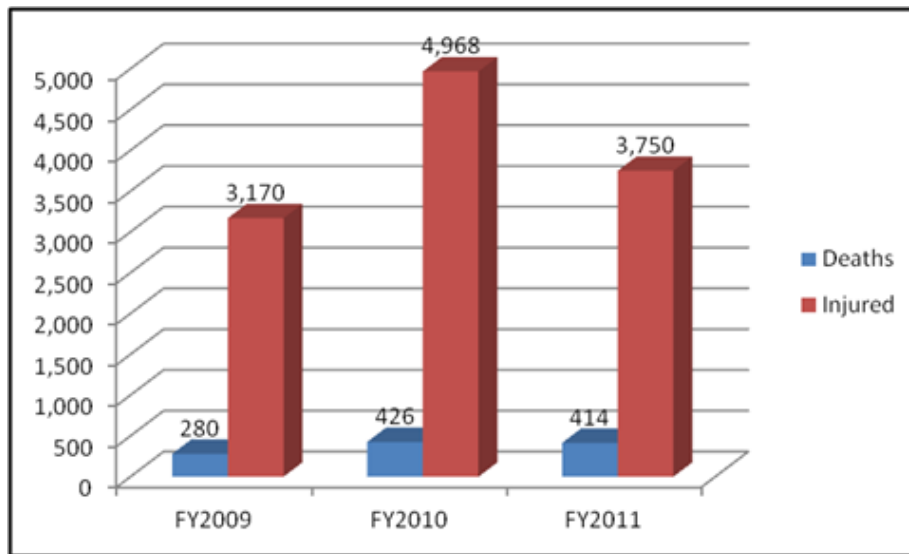


Figure 2. Contractor Deaths and Injuries in Iraq & Afghanistan (After CENTCOM quarterly reports and DoL DBA Case Summary reports.)

As shown in Figures 3 and 4, the number of deaths is higher in Afghanistan but the number of injuries is higher in Iraq. The chance a contractor would die in Afghanistan was slightly higher to the risk a contractor would die in Iraq in 2009, but by 2010, the chance increased to five times the chance of dying in Iraq and by 2011, the chance of dying increased to nine times the chance of dying in Iraq.

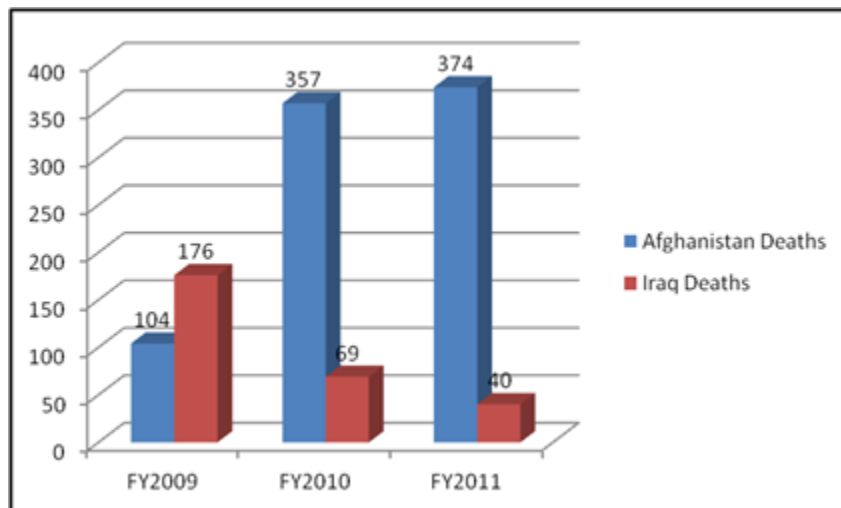


Figure 3. Contractor Deaths in Afghanistan vs. Iraq (After DoL DBA Case Summary reports.)

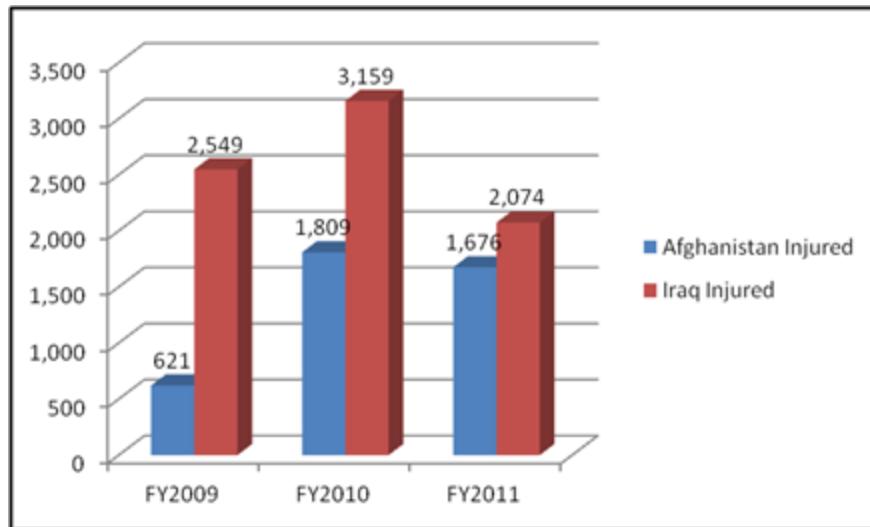


Figure 4. Contractor Injuries in Afghanistan vs. Iraq (After DoL DBA Case Summary reports.)

Between 2003 and 2011, 1,560 contractors died in Iraq. The number of contractors dying in Iraq started to decline from 2009 to 2011 but the risks of injury remained high in Iraq. As shown in Tables 3 and 4, while the overall risk to a contractor in Iraq was higher than the overall risk for a contractor in Afghanistan, the number of deaths was higher in Afghanistan during 2010 and 2011.

Table 3. Contractor Levels and Casualty Percentages in Iraq (After CENTCOM quarterly reports and DoL DBA Case Summary reports.)

Year	Average Contractor Levels	Deaths	Injured	Contractor Casualty Percentage
2009	128,524	176	2,549	2.1%
2010	87,306	69	3,159	3.7%
2011	62,680	40	2,074	3.4%
Totals	2001 to 2011	1,560	16,290	

Table 4. Contractor Levels and Casualty Percentages in Afghanistan (After CENTCOM quarterly reports and DoL DBA Case Summary reports.)

Year	Average Contractor Levels	Deaths	Injured	Contractor Casualty Percentage
2009	79,505	104	621	0.9%
2010	99,356	357	1,809	2.2%
2011	93,182	374	1,676	2.2%
Totals	2001 to 2011	1,095	6,202	

The increase in deaths in Afghanistan mirrored the increase use of improvised explosive devices (IED) in Afghanistan. The Center for Strategic and International Studies released a study on IED incidents in Afghanistan and reported that Counter-IED forces defeated many of the IEDs but a large number of IEDs were still effective in attacking military forces, causing many deaths, injuries and/or destruction of equipment (Cordesman, Allison, and Lemieux, 2010), see Figure 5.

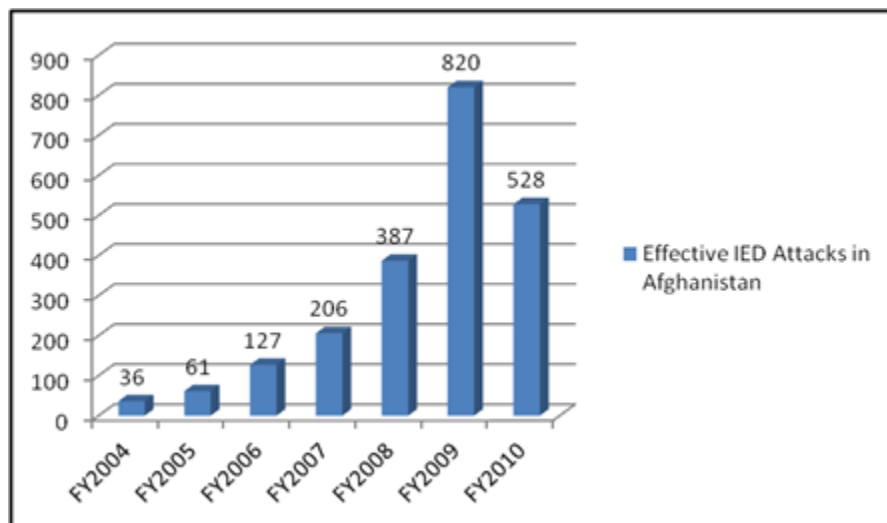


Figure 5. Effective IED Attacks in Afghanistan (January 2004 to May 2010) (After Cordesman, Allison, and Lemieux, 2010)

Afghanistan has long logistics chains across the country to truck in fuel and supplies for the military forces and bases around the country.

The data suggests that a contractor is at high risk for an IED attack during contractor movement around Afghanistan while riding in a vehicle during a convoy (Commission on Wartime Contracting (CWC), 2011, p. 60)

2. U.S. Military Personnel Deaths and Injuries in Iraq and Afghanistan

As of March 2012, total DoD military casualties in Iraq and Afghanistan equaled 6,323 dead and another 46,436 wounded. The U.S. has sustained losses of at least 400 deaths and 2,000 injuries each year, from 2003 to 2011. The DoD personnel and military casualty statistics list 44 military deaths in Afghanistan during 2001 but the DoD did not track the number of military personnel serving in Afghanistan for this time period (DoD personnel and military casualty statistics, n.d.). The troop casualty percentage for U.S. Military personnel was determined for 2002 to 2011, but could not be determined for 2001 without the data for troop levels in Afghanistan for 2001, see Table 5.

Table 5. U.S. Military Troop Levels and Casualty Percentage in Iraq & Afghanistan (After DoD's personnel & military casualty statistics website)

Year	Average Troop Levels	Deaths	Injured	Troop Casualty Percentage
2002	5,200	49	74	2.4%
2003	78,100	531	2,519	3.9%
2004	145,800	898	8,218	6.3%
2005	162,900	942	6,210	4.4%
2006	161,500	918	5,812	4.2%
2007	172,000	1,020	6,858	4.6%
2008	187,900	468	2,840	1.8%
2009	186,300	459	2,820	1.8%
2010	151,800	560	5,634	4.1%
2011	106,300	467	5,418	5.5%
Totals	1,357,800	6,312	46,403	3.9%

As shown in Table 6, the casualty percentage for U.S. Military personnel in Iraq from 2003 through 2007 averaged 4.9% with a peak of 6.8% in 2004. As shown in Figure 6, there is a spike in casualties in 2004, when violence erupted in Iraq, and a large drop in casualties in 2008 with a continued decline through 2011. The data suggests the troop surge into Iraq in 2007 to counter the insurgency was effective.

Table 6. U.S. Military Troop Levels and Risk of Casualties in Iraq (After DoD's personnel & military casualty statistics website)

Year	Average Troop Levels	Deaths	Injured	Troop Casualty Percentage
2003	67,700	486	2,420	4.3%
2004	130,600	846	8,000	6.8%
2005	143,800	844	5,942	4.7%
2006	141,100	820	5,412	4.4%
2007	148,300	903	6,108	4.7%
2008	157,800	313	2,045	1.5%
2009	135,600	148	677	0.6%
2010	88,300	60	392	0.5%
2011	42,800	54	227	0.7%
Totals	1,056,000	4,474	31,223	3.4%

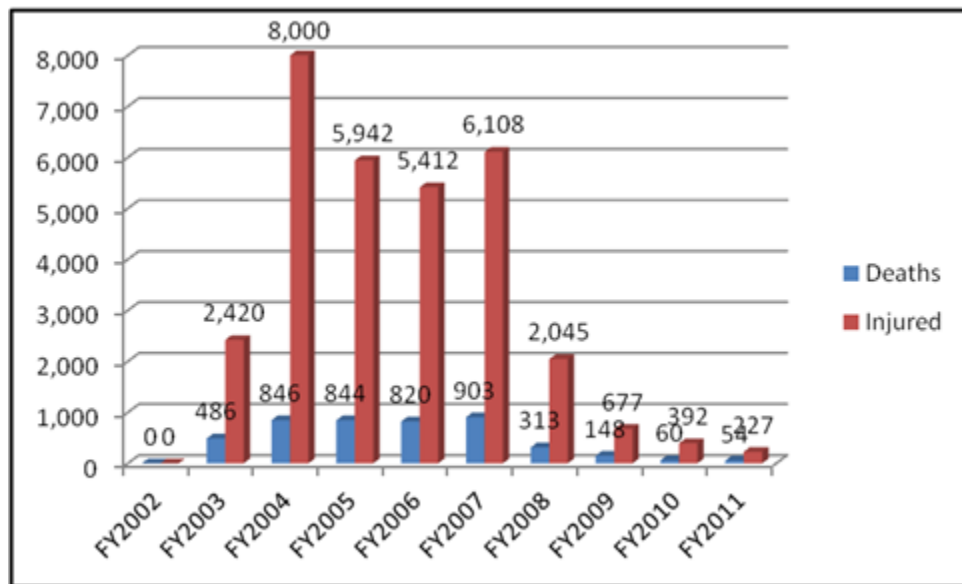


Figure 6. U.S. Troop Casualties in Iraq (After DoD's personnel & military casualty statistics website)

The percentage of military members in Afghanistan dead or injured was lower than the percentage dead or injured in Iraq from 2002 through 2008 but started to increase in 2009 and surpassed the risk level in Iraq during 2010 and 2011, see Table 7.

Table 7. U.S. Military Troop Levels and Casualty Percentage in Afghanistan (After DoD's personnel & military casualty statistics website)

Year	Average Troop Levels	Deaths	Injured	Troop Casualty Percentage
2002	5,200	49	74	2.4%
2003	10,400	45	99	1.4%
2004	15,200	52	218	1.8%
2005	19,100	98	268	1.9%
2006	20,400	98	400	2.4%
2007	23,700	117	750	3.7%
2008	30,100	155	795	3.2%
2009	50,700	311	2,143	4.8%
2010	63,500	500	5,242	9.0%
2011	63,500	413	5,191	8.8%
Totals	301,800	1,838	15,180	5.6%

The U.S. military also saw an increase in casualties in Afghanistan, similar to the increase in casualties for contractors, from 2009 to 2011. Military casualties spiked in 2009, with the total number of casualties being almost three times that in 2008. As with contractor casualties, this spike in military casualties corresponds to the spike in effective IED attacks in Afghanistan in 2009, see Figures 5 and 7.

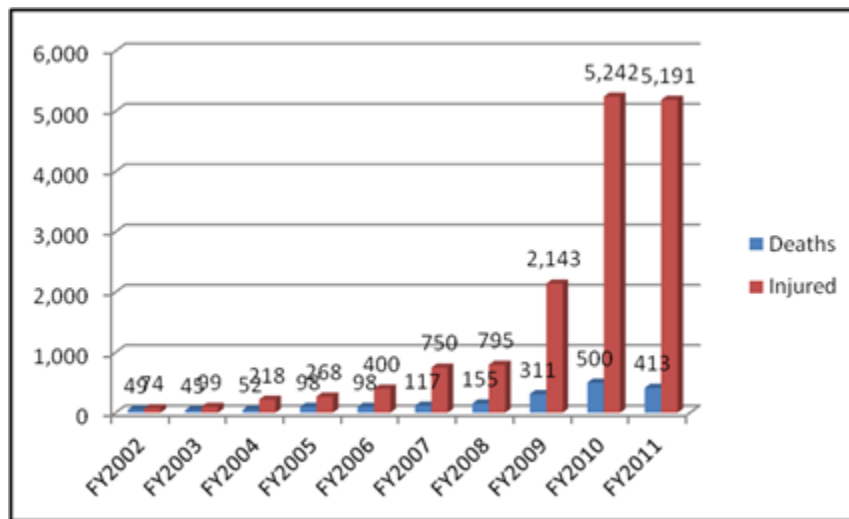


Figure 7. U.S. Troop Casualties in Afghanistan (After DoD's personnel & military casualty statistics website)

3. Comparison of Risk for Contractors in Iraq and Afghanistan versus the Risk for U.S. Military Personnel in Iraq and Afghanistan, 2009 to 2011

The number of DoD contractors serving in Iraq from 2009 to 2011 was close to a 1 to 1 ratio with military members serving in Iraq. However, the risk of injury or death for a contractor in Iraq during 2009 to 2011 ranged from three to seven times higher than the risk for U.S. Military personnel. The majority of this difference was in the number of injuries, with the number of deaths about equal; see Table 8 and Figure 8.

Table 8. Comparison of Casualty Percentage in Iraq for Contractors and U.S. Troops (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

Year	Contractor Levels	Contractor Casualty Percentage	U.S. Troop Levels	U.S. Troop Casualty Percentage
2009	128,524	2.1%	135,600	0.6%
2010	87,306	3.7%	88,300	0.5%
2011	62,680	3.4%	42,800	0.7%

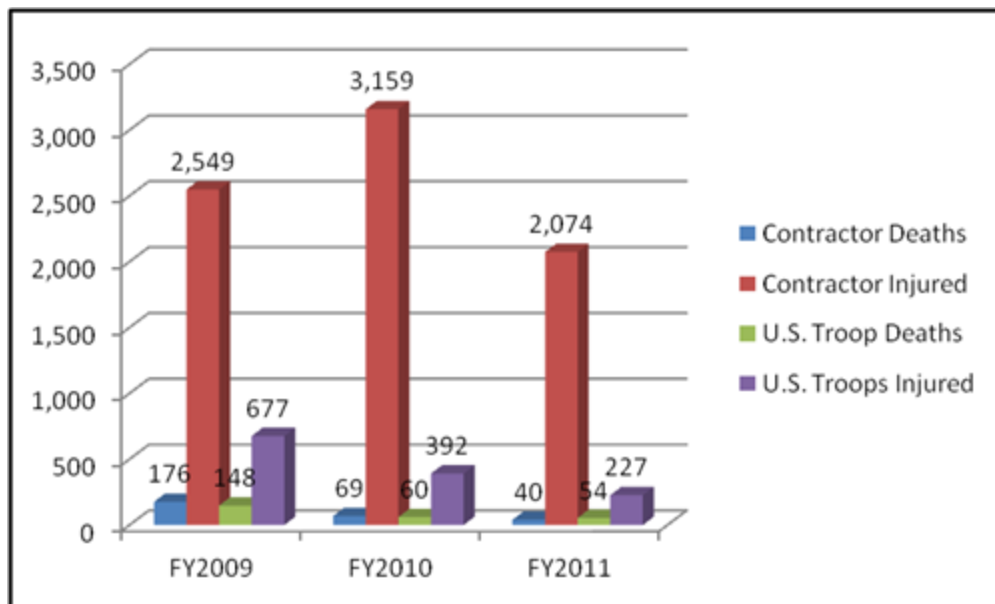


Figure 8. U.S. Troop & Contractor Casualties in Iraq (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

The DoD relies more on contractors in Afghanistan than in Iraq. From 2009 to 2011, there was about a 1.5 to 1 ratio of contractors to military members serving in Afghanistan. The risk of injury or death for U.S. Military personnel in Afghanistan is about four times the risk for a contractor serving there from 2009 to 2011; see Table 9 and Figure 9. The continuation of offensive combat operations in Afghanistan by the U.S. military against the Taliban insurgents is a likely explanation for this observation. In Iraq, the U.S. military transitioned into a support role with the Iraqi military taking the lead in operations. This would likely reduce the risk U.S. military would face on a daily basis in Iraq.

Table 9. Comparison of Risk in Afghanistan for Contractors and U.S. Troops (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

Year	Contractor Levels	Contractor Casualty Percentage	U.S. Troop Levels	U.S. Troop Casualty Percentage
2009	79,505	0.9%	50,700	4.8%
2010	99,356	2.2%	63,500	9.0%
2011	93,182	2.2%	63,500	8.8%

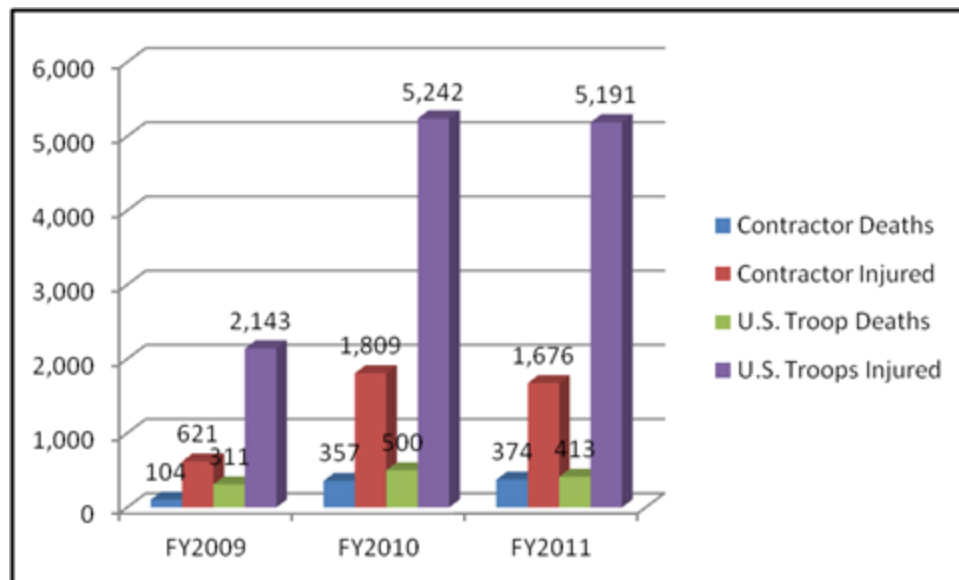


Figure 9. U.S. Troop & Contractor Casualties in Afghanistan (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

The DoD uses a greater number of local country nationals (LCN) for private security positions in Afghanistan. In CENTCOM's third quarter census report (2011), the number of LCN contractors hired in Iraq and Afghanistan to perform security contractor (PSC) functions was different. In Iraq, the DoD hired only 640 LCNs for PSC positions but in Afghanistan, the DoD hired 13,330 LCNs for PSC positions. A PSC position would seem to have a good chance of getting killed or injured during an attack of the location the PSC is protecting. An injured LCN or the family members of a LCN that was killed may be unaware of their insurance rights and would not file a compensation claim (CWC, 2011, p. 31). This may cause companies to under report the number of casualties to the DoL. Without a workers' compensation claim being filed, the DoL's DBA case summary reports will not include those injuries and deaths without the claim. This may indicate why there is a lower casualty percentage for contractors in Afghanistan.

D. DATA ANALYSIS INSURANCE BENEFITS

Contractors working in Iraq and Afghanistan under contracts for the United States receive workers' compensation insurance through the Defense Base Act (DBA) of 1941 as amended. The Defense Base Act (1941, § 1651) requires companies to obtain workers' compensation insurance coverage, also called DBA insurance, or provide proof of self-insurance for an injury or death incurred in the scope of employment for U.S. government contracts that are performed outside the United States. The DBA (1941, § 1651) extends the workers' compensation benefits of the Longshore and Harbor Workers Compensation Act (LHWCA) of 1927 to the contractors that are working for the U.S. government overseas. Contracting officers must include in a contract the Federal Acquisition Regulation (FAR) clause 52.228-3, regarding the requirement to obtain and maintain workers' compensation insurance for employees working overseas under U.S. government contracts when the Defense Base Act is applicable.

There are numerous types of injuries and compensation packages contractors and military personnel may receive. For the purpose of this study, a comparison was limited to four categories of insurance benefits: medical treatment, temporary disability, permanent disability and death benefits.

1. Insurance Benefits for Medical Treatment

The company normally provides all support to the contractor, such as routine medical care, unless the contractor is serving in a contingency or battlefield environment and the only option available is a military treatment facility. In this case, medical care provided by the military at a military treatment facility is allowed. Contractors can receive emergency life threatening care at a military treatment facility even if routine medical care is not authorized. The government is reimbursed by the company for a contractor's medical costs for care provided at a military treatment facility (FM 3-100.21, 2003; DoDI 3020.41, 2011).

2. Insurance Benefits for a Temporary Disability

The LHWCA (1927, § 902) defines a disability as incapacity to earn wages due to an injury. If the disability can be resolved over time and with treatment, it is considered a temporary disability. The temporary disability may be a temporary partial disability (TPD) or a temporary total disability (TTD) depending upon the degree or seriousness of the injury (LHWCA, 1927, § 908). For the purposes of this study, a temporary disability for a contractor is defined as an impairment to mind or body that causes a contractor to miss more than four days of work but the impairment does not continue throughout the life of the disabled person. The LHWCA (1927, § 906) does not pay any compensation for any injury that causes the loss of three work days or less. For military personnel, a temporary disability is defined as an impairment of the mind or body that reduces the wage earning capacity of the member. A physical evaluation board will evaluate the "severity of an injury" and provide a disability rating from 10% to 100% (DoD compensation & benefits handbook, 2011, p. 18). The member is rated on a disability schedule which rates the reductions in earning capacity from specific injuries or combination of injuries. The disability ratings schedule is constructed to provide ten

grades of disability upon which payments of compensation shall be based: 10%, 20%, 30%, 40%, 50 %, 60%, 70%, 80%, 90%, and 100% (38 U.S.C. § 1155).

A contractor with a temporary total disability will receive compensation equal to 66 2/3% of the contractor's average weekly wages (AWW) not to exceed the maximum national average weekly wage (NAWW) until the disability is healed. The NAWW rates are set every October 1st by the Department of Labor. The maximum NAWW rate was set at \$1,295.20 on October 1, 2011 (<http://www.dol.gov>). If the injury is a temporary partial disability, the contractor will receive compensation equal to 66 2/3% of the loss in earning capacity, the difference between the injured contractor's average weekly wage before the injury and his wage–earning capacity after the injury. The contractor receives this compensation while the disability continues but not to exceed five years (LWHCA, 1927, § 908).

The DoD's *Wounded, Ill, Injured: Compensation and Benefits Handbook* provides information on compensation based on disability ratings (DoD compensation & benefits handbook, 2011, pp. 21–23). A military member with a temporary disability will receive a disability rating from 30% to 100% to determine if the disability is partial (30%–80%) or total (80–100%). A military member can be placed on the Temporary Disability Retirement list (TDRL) if the member's injury is unstable, receives a disability rating of 30% or greater and the physical evaluation board cannot make a final decision on the fitness for continued service. The member can be placed on the TDRL for a maximum of five years. The member will receive the higher of disability retirement pay calculated using two methods. The first method to calculate retirement pay is based on a percentage of basic pay determined by the disability rating:

- Disability rating 30–40%: 50% of the average highest 36 months of basic pay
- Disability rating 50–70%: 50–70% of the average highest 36 months of basic pay
- Disability rating 80–100%: 75% of the average highest 36 months of basic pay

The second method is based on years of service and a 2.5% retirement rate:

- (2.5%) x (years of service) x (average highest 36 months of basic pay)

The member will receive a physical exam every 18 months to determine if the member can return to active duty, remain on the temporary disability retirement list or be placed on the permanent disability retirement list (2011, pp. 21–23).

3. Insurance Benefits for a Permanent Disability

For the purposes of this study, a permanent disability is defined as an injury that causes a contractor or military personnel an impairment of the mind or body, and the impairment will continue throughout the life of the disabled person. A permanent disability may be partial or it may be total. A permanent partial disability is an impairment that reduces the wage earning capacity of a person throughout the life of the disabled person, such as the loss of a finger, hand or foot, but a permanent total disability is an impairment of the mind or body that makes it impossible for the contractor or military member to follow a gainful occupation and the impairment will continue throughout the life of the disabled person. An example of a permanent total disability would be a loss of limbs, paralysis, or blindness.

A contractor with a permanent partial disability, would initially receive temporary total disability or temporary partial disability until the injury (i.e., loss of a hand) healed enough for a contractor to go back to work at a reduced capability (i.e., using a prosthetic). The contractor would then receive permanent partial disability compensation of 66 2/3% of the contractor's average weekly wages for a defined period based on a schedule of injuries that do not constitute a permanent total disability, but not to exceed the maximum national average weekly wage rate which is currently \$1,295.20. The longest period of time on the schedule of disabilities is 312 weeks of compensation for the loss of an arm, then 288 weeks for the loss of a leg down to the shortest of 15 weeks for the loss of a fourth finger (LWHCA, 1927, § 908).

A contractor with a permanent total disability, such as the loss of both hands, both feet, both eyes or both legs, would receive permanent total disability compensation of 66 2/3% of his AWW for as long as the disability continues, but not to exceed the maximum NAWW rate which is currently \$1,295.20 (LHWCA, 1927, §§ 906, 908).

Military members receive life insurance coverage under service groups' life insurance (SGLI). This insurance also provides military personnel coverage under traumatic service groups' life insurance (TSGLI) (DoD compensation handbook, 2011, p. 15). A military member that receives a permanent disability will receive a onetime lump sum payment based on a schedule of losses ranging from \$25,000 to \$100,000 per traumatic injury (i.e., \$50,000 for loss a hand, \$100,000 for paralysis) (<http://www.insurance.va.gov/sgliSite/TSGLI/Schedule/Schedule.htm>). The military member will also receive a disability rating for the permanent disability. A member with a disability which receives a disability rating of 30% or higher may be placed on the permanent disability retirement list (PDRL). A military member that has a permanent disability which is rated less than 30% and is found to be unfit for further service, will be medically separated and receive severance pay equal to two times their basic pay multiplied by the number of years of service, using a minimum of six years for combat related injuries. A member with a disability rating less than 30% but with greater than twenty years of service may also be placed on the PDRL. The rating of the military member's disability is based on the severity of the injury, with a partial disability receiving a rating being greater than 30% but less than 80%, and a total disability receiving a rating of 80–100% (DoD compensation handbook, 2011, pp. 21–23). The member will receive the higher of disability retirement pay calculated using two methods. First, the disability retirement pay cannot exceed 75% of the average of the highest 36 months of basic pay, unless the member has greater than 30 years of service. The retirement pay is equal to a percentage of basic pay:

- Disability rating 30–70%: 30–70% of the average highest 36 months of basic pay
- Disability rating 80–100%: 75% of the average highest 36 months of basic pay

The second method is based on years of service and 2.5% retirement rate:

- $(2.5\%) \times (\text{years of service}) \times (\text{average highest 36 months of basic pay})$

The disability payments are for life and the amount of the payments are based on a percentage of the member's base salary based on the number of years served times the VA disability rating (DoD compensation & benefits handbook, 2011, pp. 21–23).

4. Insurance Benefits for Death

If a contractor dies in Iraq or Afghanistan, the contractors' spouse gets up to \$3,000 in burial expense compensation and 50% of the contractor's average weekly wages and an additional 16 2/3% if there is one or more children, not to exceed a total compensation rate paid out of 66 2/3% of the contractor's average weekly wage and not to exceed the maximum national average weekly wage rate of \$1,295.20. The spouse will continue to receive death benefits for life or until remarriage and a child will receive compensation for life (LHWCA, 1927, § 909). The maximum annual amount a contractor's family could receive would be \$67,350.40 per year for life. This annual amount is based on the maximum national weekly wage rate of \$1,295.20 for fifty-two weeks per year, assuming that 66 2/3% of the contractor's average weekly wages exceeded the maximum national weekly wage rate. The minimum limits for workers' compensation benefits established in § 906 and § 909 of the Longshore and Harbor Workers' Compensation Act do not apply (DBA, 1941, § 1652). A LCN could be earning as little as \$60 per week and his beneficiaries would only receive \$2,080 per year in death benefits.

If a U.S. Military member dies in Iraq or Afghanistan, the military member's beneficiaries can get up to \$500,000 at the time of the military member's death; a \$100,000 death gratuity and anywhere from \$100,000 to \$400,000 in service group life insurance, depending on what level the member elected. The military family is also eligible for six months medical coverage for free and a year of basic allowance for housing (BAH) benefits. The value of the medical benefits could not be calculated due to the benefits being a variable cost dependent upon what type of medical care the dependents required. The amount of the BAH benefit is also variable and is based on the rank of the service member and the location of the military member's housing.

E. FINDINGS

1. Comparison of Risk and Insurance Benefits

Equity theory posits that a worker may perceive equity in the workplace if the principle of fairness is followed. A worker measures equity by comparing rewards for his or her performance with those of another worker of a comparable job. An inequity arises if the principle of fairness is violated such that an individual receives less than another person performing the same type of job or doing less work (Thomas, 2002, pp. 119–120). In a high risk occupation, an employee could be expected to compare the rewards of insurance benefit against the risk borne to receive these benefits, and also to compare the benefits received by another facing similar risk. Three conceptions of equity; absolute equity, relative equity or a combination of the two, adjustment equity; suggest different assessments as explained in the subsequent section (Landy & Becker, 1987).

a. Medical Treatment Equitable

Contractors and military personnel face similar risks, i.e., IED attacks. Absolute equity theory suggests that contractors and military personnel facing the same risk should receive the same insurance benefits. The data shows that all contractors receive the same medical care that other contractors and military personnel receive, regardless of their wages. Companies provide contractors with similar medical care provided to the military personnel. If the company cannot provide the care in a remote operational environment or if the contractor requires emergent care, the contractor can receive the same medical care troops receive at a military treatment facility (DoDI 3020.41, 2011, p. 24). Medical treatment is thus "absolutely" equitable.

b. Workers' Compensation for Disabilities not Equitable

The DBA workers' compensation benefits are applied using logic consistent with relative equity for temporary disabilities and adjustment equity a mixture of relative equity and absolute equity for permanent disabilities. For temporary disabilities, a contractor receives a relative percentage of his average weekly wage rate as

compensation for an injury. Contractors' benefits for temporary disabilities are equitable with those of U.S. Military members'. Both contractors and military members both receive a relative portion of their wages as compensation for a temporary disability.

Workers' compensation benefits for permanent disabilities are applied using logic consistent with relative equity for the initial injury and shifting to adjustment equity, if the injury results in a permanent disability. When a contractor receives a permanent disability, he initially receives a relative portion of his wages as compensation benefits for a temporary partial/total disability. As the injury heals, the contractor shifts to adjustment equity when the compensation for the permanent partial/total disability kicks in. The contractor receives a relative percentage of his weekly wages for a defined period based on a schedule of injuries. The amount of weekly benefits is determined using the logic of relative equity but the defined period of compensation is determined using the logic of absolute equity. The defined period of compensation for an injury is the same amount of time for all workers regardless of wages (absolute equity), it is based on the type of permanent disability and not the wages. When comparing workers' compensation for contractors against compensation for the military, the contractor's system would be equitable due to the similarity of the military member's compensation, but the maximum amount of the compensation for contractors is capped at the maximum national average weekly wage of \$1,295.20. This cap makes the contractor compensation inequitable between contractors (i.e., all contractors do not receive the same relative percentage) and between contractors and military personnel (i.e., because they have no cap reduction). If a contractor was earning \$10,000 per month or a weekly wage of \$2,500 per week, his normal compensation would be 66 2/3% of his average weekly wage or \$1,666.67 but he would only receive \$1,295.20, the maximum allowed under the cap limit regardless of the severity of his injury but a military member would receive compensation based on the severity of his injury with the possibility of receiving up to 75% of his basic pay with no cap to reduce this amount.

When comparing both the contractors' and military members' compensation systems absolute equity theory suggests that using logic consistent with relative equity to determine compensation for injuries is inequitable because this results

in different values for the same type of injury. For example, if two contractors and an Army Corporal (pay grade E-4) were riding in a truck during a convoy in Iraq and the truck was hit by an improvised explosive device with all three personnel receiving the same injury, the loss of their left hand, the injuries would be valued differently. All three personnel were exposed to the same risk and all three received the same injury but using relative equity, each injury would potentially be worth different amounts depending upon the person's wages. If one contractor received an average weekly wage of \$600, and the other contractor received \$3,000 per week; the value of the first contractor's hand would be \$97,600 (\$600 per week x 66 2/3% x 244 weeks), and the value of the second contractor's would be \$316,028.80 (\$1,295.20 per week for 244 weeks) (33 U.S.C. § 908). The value of the Army Corporal's hand would be \$145,462.94 after the 244 weeks. The corporal would have received a onetime lump sum traumatic injury compensation payment of \$50,000 for the loss of a hand and \$1,695.38 per month (75% of his monthly basic pay of \$2,260.50) but after 244 weeks, he would continue to receive the \$1,695.38 per month for life. After ten years, the corporal would have received a total compensation of \$253,445, after twenty years, the total compensation would have grown to \$456,891 (DoD Compensation & Benefits Handbook, 2011). The different values assessed for an injury by using a relative percentage of a person's wage make it inequitable and this may have a negative impact on contractor motivation to serve in a war zone.

c. Death Benefits not Equitable

The DBA insurance death benefits are allocated using logic consistent with relative equity theory. The death benefits are not equitable between contractors and not equitable when compared to the death benefits for military members due to the maximum limit placed on the contractors' weekly death benefits and the lack of a minimum limit on contractor's death benefits. A TCN from Nepal hired to work as a cook may receive \$120 in average weekly wages. The TCN's death benefits would be 66 2/3% of \$120 per week for life. His life would possibly be only worth \$80 per week (\$4,160 per year) to his spouse and child for life. If an American contractor earning \$3,000 per week gets killed, his family would receive the maximum payment of

\$1,295.20 per week. This system makes the life of an American or higher paid contractor more valuable than the life of a lower wage contractor and the compensation system penalizes the family of the contractor that earns a higher wage by placing a cap on his benefits, instead of receiving 66 2/3% of the contractor's average weekly wage, the beneficiaries would only receive 43%. The maximum limit on benefits makes the workers' compensation system no longer relatively equitable as all contractors do not receive the same relative portion of their wages. Contractors may perceive that the compensation system provides benefits that are not equitable between contractors and even less equitable when compared to the U.S. Military personnel. Contractors may not be as motivated to serve in war zones if they face the same risks as the military but the contractors' families may have to struggle to make ends meet if the contractor gets killed, while the military family receives a perceived income windfall.

The military death benefits are allocated using logic consistent with absolute equity, the compensation for beneficiaries of military personnel are all the same for each member, regardless of rank or wages. A military member's family would receive a lump sum payment up to \$500,000 (\$100,000 in death indemnity compensation and up to \$400,000 in service group life insurance, depending upon the level of coverage selected by the member). The United Nations International Children's Education Fund (UNICEF) website (<http://www.unicef.org>) lists the average life expectancy in Nepal at 68 years. Assuming the beneficiaries for the TCN from Nepal live another 68 years, the TCN's beneficiaries would receive about \$241,280. The military member's life is worth almost twice the value of a TCN's life, even if both people are potentially exposed to the same danger. Absolute equity suggests that this is a real inequity.

2. Summary

As shown in Figures 10 and 11, contractors face a real risk of death in Iraq and Afghanistan that is similar to the risk the U.S. Military personnel face, and at times the number of contractors dying exceeded the number of military deaths.

Many of these contractors are TCN and LCN contractors, who may not know of their DBA insurance coverage and do not submit workers' compensation claims. Their deaths and injuries may not get reported to the DoL which make the contractor casualty totals lower than what is really occurring.

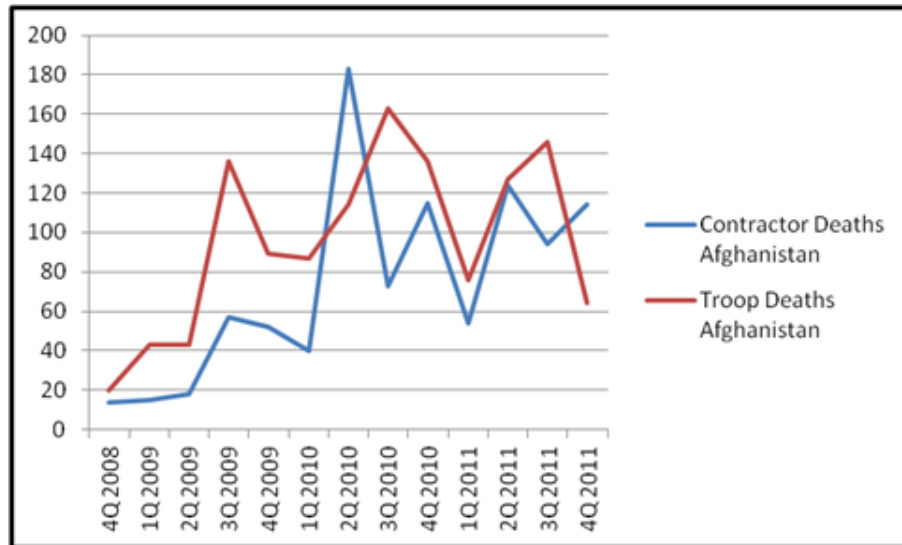


Figure 10. U.S. Troop & Contractor Deaths in Afghanistan (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

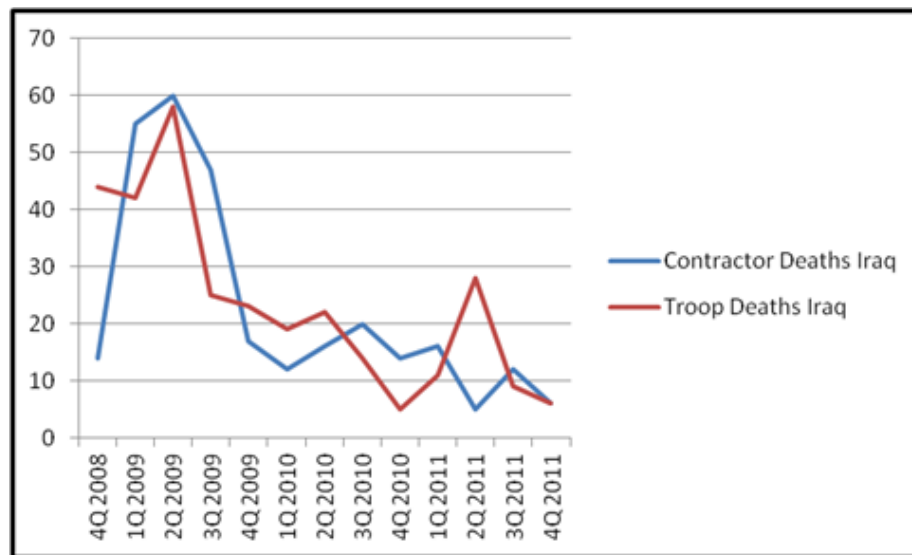


Figure 11. U.S. Troop & Contractor Deaths in Iraq (After DoL DBA Case Summary reports & DoD personnel & military casualty statistics website)

The DoL's workers' compensation system uses logic consistent with relative equity to determine a contractor's compensation benefits for an injury. The workers' compensation system can have real and perceived inequities when compared to the military's death benefits, which are allocated using logic consistent with absolute equity. Every contractor regardless of position is eligible to receive the same relative proportion, 66 2/3%, of their base salary as compensation for injuries and death but a maximum cap is placed on these benefits that makes the system no longer equitable between contractors and not equitable when compared to the military members' compensation that does not have a cap to reduce compensation benefits. A contractor's widow and children will receive only 66 2/3% of the contractor's average weekly wages, capped at \$1,295.20 per week and the military member's widow and children will receive \$500,000 in a lump sum payment. A contractor's family may perceive that this compensation is unfair but this inequity is only real for TCN and LCN contractors that receive only a few hundred dollars per week in wages. For an American contractor that receives several thousand dollars per week in wages and the family would receive the maximum of \$1,295.20, the inequity between the American contractor and the U.S. Military personnel is only a perceived inequity. The American contractor's family (spouse and one child) would receive \$67,350.40 per year for life and after ten years this amount would be \$673,504.00 and after twenty years the amount of benefits would be \$1,347,008 (not taking into account annual inflation increases). The American contractor's family could potentially receive more death benefits than the military member's beneficiaries. Assuming the military member's beneficiaries did not spend any death benefits on living expenses and just deposited the \$500,000 into an investment that earned 5% interest per year, the investment would be about \$1.33 million in twenty years. This would be highly unlikely, as the benefits are used to replace the lost income to pay essential living expenses, e.g., a mortgage, food, and utilities, and the military beneficiaries normally cannot invest the entire lump sum. The data would suggest that inequities between American contractors and U.S. Military personnel death benefits would be largely perceptual, but inequities between U.S. Military personnel deaths benefits and LCN/TCN benefits are concrete.

V. DISCUSSION AND RECOMMENDATIONS

A. EFFECT ON MOTIVATION

From 2008 to 2011, 768,232 contractors served in Iraq and Afghanistan, 441,447 in Iraq and 326,785 in Afghanistan. Between September 1, 2001 to December 31, 2011, 2,655 contractors have died in Iraq and Afghanistan and with another 22,492 contractors being injured (<http://www.dol.gov/owcp/dlhwc/dbaallnation.htm>). With casualty rates increasing in Afghanistan, the DoD must find ways to keep contractors motivated to serve in war zones by reducing the risk and/or by increasing the extrinsic rewards.

Employees will leave an unrewarding job for another one that is more rewarding and where they can further develop valuable skills that make them more employable. The military and companies cannot afford to lose good personnel or the costs of replacing them. Managing intrinsic rewards to make work more fulfilling and energizing is key in keeping good workers (Thomas, 2002).

Landy and Becker (1987, p. 18) reference Birnbaum's 1983 and Meller's 1982 journal articles that suggest that a person estimates equity somewhere between absolute equity and relative equity, called adjustment equity. Adjustment equity theory suggests a contractor, serving in a high risk occupation in Iraq and Afghanistan, would place themselves on a compensation continuum of insurance benefits and on a risk continuum to compare his risk and insurance benefits to those of the U.S. Military personnel serving in a similar situation. A contractor would consider where they perceive themselves to be on the level of risk continuum and compare this to where they are on the compensation continuum of insurance benefits. If the contractor feels they are at the same relative position on both continua as the military personnel are, equity is experienced. This is the principle of fairness in action and it basically means for high risk occupations, the benefits should be proportional to the amount of risk exposed to during performance of duties and comparable to the risk and benefits for a worker of a similar high risk job. An inequity may arise if this principle is violated by a person not receiving enough benefits for their amount of risk or if they perceive another person is getting better benefits for the

same type of risk or the same level of benefits for less risk. Pay and benefits become centered stage until this inequity is remedied (Thomas, 2002).

As shown in Figure 12, contractors had an average of 3.1% chance for risk of injury or death in Iraq; this was about five times greater than the military personnel's average of .6% risk of injury or death in Iraq during the period of 2009 to 2011. Contractors were further down the risk continuum than the U.S. Military personnel. Adjustment equity theory suggests a contractor would feel an inequity by being exposed to a greater risk of death and injury without an increase in insurance benefits. Adjustment equity would suggest that this is another real inequity. Military members and contractors are equally targeted during convoys but military members are better protected and armed than contractors (Carafano, 2008, p. 67). Schooner and Swann (2010) identified that more contractors were killed in warzones than U.S. Military members. The targeting of contractors and the lack of self-defense weapons possibly contributed to their deaths.

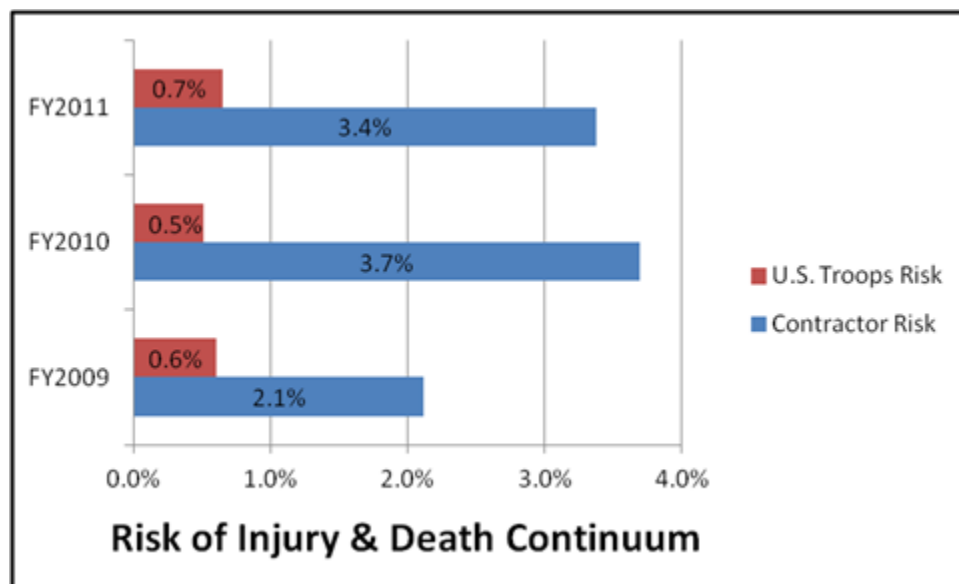


Figure 12. Casualty Percentages in Iraq (After DoL DBA Case Summary reports, CENTCOM quarterly contractor census reports & DoD personnel & military casualty statistics website)

There are real and likely perceived inequities but the DBA insurance compensation benefits are set by law and do not increase or decrease with the level of risk; benefits are only changed by the length of time a contractor is eligible to receive workers' compensation benefits based on the type of injury. When a contractor is exposed to greater risk of injury without an increase in insurance benefits, he may perceive inequity and then extrinsic rewards may become the prime motivator for contractors to serve in Iraq and Afghanistan (Thomas, 2002). The DoD may be able to eliminate the inequity by either reducing the risk or offer greater extrinsic rewards such as pay. Contractors have failed to complete missions when faced with high levels of risk and the military did not receive food and supplies (Carafano, 2008, p. 103). Contractors were targeted by insurgents in Iraq to attack the American logistics and reduce the effectiveness of the reconstruction process. On April 9, 2004, Kellogg, Brown and Root (KBR) sent a convoy of trucks with food and supplies to a base in Iraq. The convoy was attacked by local insurgents that killed several contractors. KBR shut down trucking operations for two weeks. Several military units issued out rationing orders for food and supplies. When KBR restarted trucking operations, some Marine units were down to one hot meal per day supplemented with meals, ready to eat (MRE) (Miller, 2006, p. 162). Carafano identified the cost of protecting contractors increased due to this selected targeting and the DoD paid \$766 million in 2004 to reduce the risk to contractors (2008, p. 82). Carafano also noted that the DoD must understand the risks on a battlefield and how to mitigate those risks "otherwise the risks and costs of contractors in combat may loom so large they outweigh the benefits [of using contractors in a warzone]" (2008, p. 102).

There are real and likely perceived inequities, if the inequities are not resolved, the extrinsic rewards will become the prime motivator for contractors. Contractor will have to make a decision on whether to serve in a hostile environment, like Iraq or Afghanistan, performing at a high risk occupation or to stay with a safe job. Expectancy theory is the concept that a person will have a tendency to act a certain way is dependent upon the level of expectation of a certain outcome and attractiveness of that outcome (Robbins & Judge, 2012). Individuals will consider alternatives, weigh costs and

benefits, and choose the action that will give them the most benefits or rewards for that choice (Landy & Becker, 1987). Expectancy theory works well when choices are being made about occupational or organizational choices and the choices are also bound by some constraints (Landy & Becker, 1987, p. 25). Expectancy theory would suggest that contractors may choose to not serve in Iraq or Afghanistan. The decision to serve in a hostile environment will not look very attractive to contractors if they are exposed to an excessive level of risk without increased insurance benefits. In the spring of 2004, the violence in Iraq exploded. Many companies pulled their contractors out of the country or moved personnel to isolated, secure areas. Miller discussed how "one third of 5,300" local Iraqi nationals hired to work on construction contracts in Iraq "failed to turn up...delaying the opening of new military bases." In areas of high risk, half the contractors walked off the job (Miller, 2006, p. 161). The DoD will have to pay corporations more money, in order, for corporations to be able to provide increased extrinsic rewards in the form of better security and financial incentives, like bonuses and/or higher wages.

The data suggests contractors are exposed to the same or similar risks that U.S. Military personnel face but motivation theory suggests the insurance benefits for contractors are not equitable to the insurance benefits for military personnel. A limitation of this research project is the assumption that the insurance benefits for military personnel are adequate. Another limitation of this research project is that contractors receive the workers' compensation benefits they are eligible to receive for injuries or death in a war zone. Anecdotal evidence would suggest that contractors are not receiving adequate workers' compensation benefits they are eligible for. Carafano reported that the DBA insurance coverage in practice has been bad (2008, p. 101). Military members have had similar problems receiving proper benefits and medical care after receiving combat injuries. This crisis of military medical care was brought to the attention of Congress, who became outraged and intervened on the military members to resolve the issue regarding the military members' treatment and benefits but contractors did not have any advocates for them when they have not received the proper compensation benefits for their injuries (Carafano, 2008, pp. 75–76). Miller reported that an administrative law

judge "referred CNA Financial Corporation", an insurance company that provides the DBA insurance coverage for contractors, "for criminal investigation after the firm failed to pay benefits owed to survivors of Iraqi translators killed while working for the American government" (Miller, 2011). CNA Financial Corporation withheld information from the DoL and claimed that there were no survivors to pay benefits to, even though there were company documents which listed family members that relied solely on the deceased contractor's wages. One wife lost the house she lived in when she did not receive compensation and could not make the payments (Miller, 2011). In 2009, the House of Representatives Subcommittee on Domestic Policy heard testimony from contractors being denied or not receiving the proper workers' compensation and medical treatment that they qualified for under the DBA insurance. Representative Kucinich, the Subcommittee Chairman stated that the "public interest news organization, ProPublica, analyzed Labor Department data and found that insurers had denied about 44% of all claims" (After Injury, 2009, p. 3). The Department of Labor is understaffed and has taken a "hands off" approach in the oversight of the DBA insurance program. The DoL has fined just a handful of companies, but has not pursued sanctions against companies that have falsified data (After Injury, 2009, p. 5).

The level of motivation in a contractor will determine how much risk a contractor will incur for a given level of compensation. A high achiever may seek intermediary levels of difficulty, but a low achiever will select an easier task (Weiner, 1972, pp. 393–394). In a similar fashion, a contractor that is highly motivated may be willing to face greater risk than a contractor that is less motivated. The DoD may be able to increase a contractor's level of motivation by appealing to the contractor's intrinsic motivation, i.e., the desire to fulfill a higher purpose, and/or appeal to the contractor's extrinsic motivation by providing sufficient pay and benefits. Local Iraqis served as interpreters for the United States at great risk to the contractors' lives. Iraqis, working for the U.S. government, were targeted for assassinations and kidnapping (Carafano, 2008, p. 98). Miller interviewed a former Iraqi interpreter, Hayder Kharalla, who was very intrinsically motivated (2006, p. 256). Kharalla had "high hopes for a new Iraq" and wanted to help build a new democratic Iraq. He worked as an interpreter for the U.S.

Army \$600 a month. Kharalla was injured rescuing an American military member during an insurgent attack. Kharalla lost his leg but was unable to get to the United States for medical care and receive a prosthetic device due to bureaucratic red tape. He was disillusioned and stopped working for the U.S. government and had to be helped by the U.S. Army who wanted to repay him for his service. An Army doctor who specialized in prosthetics provided him with a leg. Kharalla left Iraq to live in Jordan due to the dangers and disillusioned that no democracy will result in Iraq and due to his difficulty receiving care (Miller, 2006, pp.256–259).

The comparison of risks and benefits between contractors and the U.S. Military personnel revealed real and perceived inequities. There are real inequities between the DoL's workers' compensation insurance and the benefits provided the military members. The DoL's workers' compensation insurance uses relative equity but places a cap on the maximum weekly wages a contractor or his beneficiaries may receive in compensation. This creates a real inequity between contractors that earn a weekly wage that would cause the weekly compensation benefits to be capped at \$1,295.20. Every contractor regardless of position should receive at least the same relative proportion, 66 2/3%, of their base salary as compensation for injuries and death but the maximum cap of \$1,295.20, changes the relative percentage each person may receive and this creates a real inequity. This would suggest that a contractor would be less motivated to go to or return to a hostile environment like a war zone, due to possibly feeling that they may not receive adequate rewards for the risk they face.

The DoL's workers' compensation system's death benefits have real and perceived inequities when comparing the contractors' death benefits against the military members' death benefits. Adjustment equity would suggest that a contractor would not necessarily feel an inequity between his benefits and another contractor's or military's benefits when there is a smaller range of differences in the amounts. This would most likely occur between an American contractor and the U.S. Military personnel, but a significant difference in benefits, i.e., TCN contractor benefits compared to the U.S. Military personnel, would give rise to inequity. A real inequity exists between very low wage contractor's beneficiaries and military member's beneficiaries. The low wage contractor's

widow and children will receive only 66 2/3% of the contractor's average weekly wages, capped at \$1,295.20 per week, but this is only \$80 per week for a contractor that only earned \$120 per week. The contractor's compensation for his death is dwarfed by the U.S. Military member's death benefits of \$500,000 in a lump sum payment. Even with this real inequity, the DoD may not have too much of an issue to find TCNs and LCNs to work on government contracts for these very low wages (\$100 to \$600 per week) due to the poverty in countries like Nepal, India, Philippines and Pakistan. The \$100 to \$600 per week wages are small fortunes in some impoverished countries and this extrinsic reward is sufficient motivation to bring TCNs into hazardous environments to work.

There are still limitations and how much risk even a TCN or LCN will endure. Companies sometimes use deceptive tactics to lure TCNs to go overseas to work in one country and then shift them to Iraq or Afghanistan and pay them a smaller wage than originally promised. The company controls the contractor and pays lower wages by taking control of passports and keep power over them through "indenture servitude" like contracts by charging them large "referral" fees for getting them a job, that takes months or years to pay off. Deceptive tactics can have consequences. As the wars continue to wage on, TCNs and LCNs are becoming better educated and learn about their resources or find ways to fight back against these injustices. In Nepal, people took to the street to riot and the Nepalese government stepped in to help. Companies forced to pay large compensation payments (Miller, 2006, pp. 242–251).

I believe the inference is that when people are down in pay, extrinsic rewards will become the dominate factor that drives their decisions (Thomas, 2002). Third country nationals and local nationals do not have much of a choice, and getting paid for work in Iraq and Afghanistan far exceeds what they could earn in their home country. The family separation and risk of injury are outweighed by this large extrinsic reward. The same goes for U.S. contractors.

B. FURTHER RESEARCH

1. Cost Benefit Analysis of Using Contractors in a War Zone

Given the complexities of this problem, further research is needed. An OMB A-76 type cost benefit analysis of using contractors in a warzone as the level of danger increases should be conducted. The cost savings of using contractors for troop support may not be realized if the risk of death and injury are too high. The DoD spent \$766 billion in security costs to protect contractors in Iraq when the violence exploded around Iraq in 2004. When the risks are high, it may be more cost effective for the DoD to fill the troop support roles in a war zone with military personnel instead of contractors.

2. Analysis of Contractor Deaths and Injuries in a War Zone

Additional research could include a study of DoL DBA case summaries by type of death and type of injury in Iraq and in Afghanistan to determine how contractors are dying and getting injured in a warzone to determine what the cause is and how to take measures to prevent these casualties, i.e., are these basic work or health issues or are adequate protection measures not being taken by the DoD or the contractor's company? This additional research may help to determine why the risk of a contractor was greater than a military member in Iraq, but four times less risky than the military members in Afghanistan. There is a greater reliance on local national contractors and third country nationals in Afghanistan and in Iraq, more contractors from the United States were used. The local nationals and third country nationals may not know of their insurance benefits and the companies may be under reporting the number of casualties by not reporting these personnel groups.

3. Audit a Military Unit's Contractor Contingency Plans

If a military unit relies heavily upon contractor support to complete their mission in a war zone, the DoD should direct Agencies to conduct an audit of the unit's contractor contingency plans. This is to ensure that the military unit has an effective contingency contractor plan in place if contractors refuse or are unable to serve in a war zone.

VI. CONCLUSIONS

From 2008 to 2011, 768,232 contractors served in Iraq and Afghanistan, 441,447 in Iraq and 326,785 in Afghanistan. Between September 1, 2001 to December 31, 2011, 2,655 contractors have died in Iraq and Afghanistan and with another 22,492 contractors being injured (<http://www.dol.gov/owcp/dlhwc/dbaallnation.htm>). With casualty rates increasing in Afghanistan, the DoD must find ways to keep contractors motivated to serve in war zones by reducing the risk and/or by increasing the extrinsic rewards. The National Military Strategy (2004) included the contracted workforce as a necessary part of the joint force. In order to engage in multiple worldwide operations, the military “must maintain a truly joint, full spectrum force, with a seamless mix of active forces, the Reserve Component, DoD civilians, and contracted workforce” (CJCS, 2004, p. 27). The Defense Department's manpower reductions and the outsourcing of many support and logistic activities in the 1990s, established a framework for the dependence upon contractors to provide goods and services in asymmetric battle zones, i.e., no front line. Contractors fill many vital roles in Iraq and Afghanistan, performing base support functions, security, interpreter, logistics, construction, transportation, communications support, and training. The consequences of having a large number of contractors in an asymmetrical warzone include death, injury and the same psychological traumas experienced by uniformed soldiers. The military addresses risks contractors face in war zones through the use of the Defense Base Act insurance (1941). U.S. Military personnel are exposed to the risk of injury or death in war zones and they also receive insurance benefits to compensate them for incurring their risk. This report compared the risk and the insurance benefits provided to each group.

Motivation theories are the appropriate framework to evaluate the equity between the contractors' risk and insurance benefits in Iraq and Afghanistan versus those of the U.S. Military personnel also serving in Iraq and Afghanistan. Motivation theory has been used to evaluate the effects of pay and benefits on employee motivations. Thomas showed that if a job has meaningful purpose, an employee receives intrinsic motivation rewards and will be committed to the job by working hard even if no one is watching.

Extrinsic motivation rewards like pay and benefits are not as important (once employed) and do not drive an employee's motivation like intrinsic motivation. But studies have shown that the principle of fairness has been violated if an employee perceives that his or her pay and benefits are not equitable in comparison with another person in a similar situation. Intrinsic motivation may have less effect and extrinsic rewards like pay and benefits may become the center of the worker's motivation or lack of motivation due to inadequate compensation until the inequity is remedied (Thomas, 2002).

By applying the theories of motivation, I compared the risk and insurance benefits of contractors serving in Iraq and Afghanistan against the risk and benefits of military personnel serving there. I found real inequities between contractors' and the military personnel benefits for injuries and death. First, relative equity is used for both contractors and military personnel when determining compensation for a temporary injury, both groups receive a percentage of wages as compensation for the injury until the person is healed, but an inequity arises due to a cap placed on the maximum amount of weekly benefits a contractor may receive. There are no caps placed on the military's compensation for a temporary injury. The contractor's compensation is no longer equitable to the military member's compensation and not equitable between contractors. Contractors no longer receive the same percentage of their average weekly wages. Employees, who would receive an average weekly wage in excess of the maximum amount of \$1,295.20, would receive the smaller amount of \$1,295.20. This would reduce the percentage of their average weekly wage they would receive in compensation for their injury.

The second real inequity is between contractor's death benefits and the military member's death benefits. Relative equity is used to determine contractor's death benefits and absolute equity is the method used to determine the death benefits for military personnel. Military members' beneficiaries are eligible to receive the same amount of benefits, \$500,000, regardless of their rank, time in service or pay; but contractors' beneficiaries only receive a relative percentage of their average weekly wage but not to exceed the maximum national average weekly wage of \$1,295.20. There is no minimum limit. The beneficiaries (spouse and child) for a contractor, who earns a \$120 per week,

would receive \$80 per week (66 2/3% of \$120) or \$4,160 per year for life. In 100 years, this amount would not add up to the \$500,000 provide to a U.S. Military member's beneficiaries. This is a real inequity.

The data suggests contractors are exposed to the same or similar risks as the U.S. Military personnel face but motivation theory suggests that contractors do not receive an equitable amount of insurance benefits as military personnel receive in a war zone. The comparison of risks and benefits between contractors and the U.S. Military personnel revealed real and inferred inequities in the workers' compensation benefits. If these inequities are not resolved, the extrinsic rewards may become the prime motivator for contractors (Thomas, 2002). Expectancy theory suggests a person will have a tendency to act a certain way dependent upon the level of expectation of a certain outcome and attractiveness of that outcome (Robbins & Judge, 2012). When weighing outcomes, an individual considers alternatives, weigh costs and benefits, and choose the outcome that may give them the most benefits or rewards for that choice (Landy & Becker, 1987). Expectancy theory suggests contractors may have to make a decision between performing a high risk occupation in a hostile environment, like Iraq or Afghanistan, and taking a safer job elsewhere. Expectancy theory works well when choices are being made about occupational or organizational choices and suggests that contractors may choose to not serve in Iraq or Afghanistan (Landy & Becker, 1987, p. 25). The decision to serve in a hostile environment will not look very attractive to contractors if they are exposed to an excessive level of risk without equitable insurance benefits or increased compensation. When violence exploded in Iraq during 2004, many companies pulled their contractors out of the country or moved personnel to isolated, secure areas. In areas of high risk, half the contractors walked of the job (Miller, 2006, p. 161).

If the DoD continues to use contractors to fill troop support roles in a war zone, the costs of executing a war may continue to grow. The DoD may have to pay even more money to obtain better security protection for contractors and to provide sufficient extrinsic rewards, like bonuses and/or higher wages, in order to motivate contractors to continue serving in a hostile environment.

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